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# GEOGRAPHICAL

# ABSTRACTS

# PHYSICAL GEOGRAPHY

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# GEOGRAPHICAL ABSTRACTS: Physical Geography

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*Geographical Abstracts: Physical Geography* is a unique bibliographic information source providing comprehensive coverage of the physical geography literature.

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# GEOGRAPHICAL ABSTRACTS: PHYSICAL GEOGRAPHY

## Annual Index 1993

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## Using the index

### Subject Index

A single string of keywords is provided for each abstract, each element of which has a separate entry in the index, and appears with the other elements of the string followed by any regional terms from the abstract. The number **immediately following** is the reference number for the abstract.

For example, the string:

peat bog, late glacial, Holocene, tephra bed, France, Massif Central; 02372

will appear as:

#### **tephra bed**

peat bog, late glacial, Holocene, France, Massif Central; 02372

#### **peat bog**

late glacial, Holocene, tephra bed, France, Massif Central; 02372

#### **late glacial**

Holocene, tephra bed, peat bog, France, Massif Central; 02372

#### **Holocene**

tephra bed, peat bog, late glacial, France, Massif Central; 02372

Where a keyword occurs more than once the entries are blocked and sorted in alphabetical order by the second keyword. For example:

#### **peat bog**

late glacial, Holocene, tephra bed, France, Massif Central; 02372. methane, wetlands, seasonality, reduction, carbon dioxide, USA, Washington, Cascade Range, King's Lake Bog; 04477. pollen analysis, interglacial.....etc

Where a general term is being used in a search, it will probably be more efficient to look up a more specific term in the first instance and then use the more general term as a qualifying term.

For example:

(1) **carbonate platform** and then (2) **Cretaceous** rather than

(1) **Cretaceous** and then (2) **carbonate platform**

All the index terms are selected by the editors and so a reasonable degree of consistency can be expected. However, exceptions do occur and it is worth searching all alternative or similar terms.

For example:

**carbon-14** see also **radiocarbon**

In some cases abbreviations have been used as index terms. These are limited to internationally accepted abbreviations. A listing of abbreviations and acronyms is provided.

For example:

**GIS** - geographic information systems

Please note that English spelling variants have been used throughout (mechanisation; labour;) and that wherever possible the terms are indexed in the singular - except in cases where to do so would change the meaning of the term.

### Author Index

Each author is indexed separately from co-authors, each entry being followed by one or more abstract reference numbers. Please remember to check for listings under various possible combinations of initials.

For example:

Edwards, K. 06328, 09888

Edwards, K.J 05690, 12415

may or may not refer to the same individual.



In cases where there are more than six authors, we list the first one cited followed by '& others', so only the first author will appear in the index.

Although in general only the last name is indexed as the surname, in certain cases each separate element of a surname will have an entry. These are:

where surnames contain prefixes; e.g. La, De

where Latin surnames contain both parental names; e.g. A. Garcia Alvarez

where Chinese and some Indo-Chinese names are used; e.g. Peng Chu Zhang

If in doubt, check all possibilities.

## Regional Index

Although regional index terms are integrated within the subject index to give context to the keyword string, there is also a separate regional index. This operates on a hierarchical system. Under each country (or broader regional term where appropriate) the terms are progressively indented to the right, to indicate increasing specificity, and the string is only complete when an abstract reference number appears.

For example:

Japan, Hokkaido, Lake Kussharo

would appear thus:

Japan  
Hokkaido  
Lake Kussharo; 00351

Another area on the same island (eg. Kushiro Moor) would appear at the same level of indentation:

Japan  
Hokkaido  
Kushiro Moor; 00351

### Note:

All abstracts are indexed as specifically as possible so that, for example, the abstract numbers referenced under "Africa" will NOT contain ALL references to African studies, only those which cannot be narrowed down to a geographically smaller area, and so users will need to check individual country listings. Also, within a country listing the items entered under a town or regional name will NOT appear in the listing of numbers for the general entry for its home country.

## Journal Listing

This is a simple alphabetical listing of nearly 1000 periodicals cited in **Geographical Abstracts: Physical Geography** during 1993. A full listing of journals scanned by Elsevier/Geo Abstracts is available from the publisher.



# GEOGRAPHICAL ABSTRACTS: PHYSICAL GEOGRAPHY

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## Abbreviations and Acronyms

AAS = atomic absorption spectroscopy  
ABLE = Artic Boundary Layer Expedition  
AGI = Association for Geographic Information  
AGNPS = agricultural nonpoint source pollution  
AIDA = Arecibo initiative in dynamics of the atmosphere  
AIRSAR = Atmospheric Infrared Side Aperture Radar  
ALH = Airborne Lidar Hydrographic System  
ALK-GIAP (mapping software)  
AM/FM = Automated Mapping/Facilities Management  
AMS = atomic mass spectrometry  
AMSU = advanced microwave sounding unit  
ANC = acid neutralising capacity  
ANPP = areal net primary production  
ANSWERS = areal non-point source watershed environmental response variation  
ARIMA = autoregressive integrated moving average  
ARMA = autoregressive moving average  
ASTER = advanced spaceborne thermal emission and reflection radiometer  
ATKIS = authoritative topographic cartographic information system  
ATMES = atmospheric transport model evaluation study  
ATMOS = atmospheric trace molecule spectroscopy  
AVHRR = advanced very high resolution spectrometer  
AVIRIS = airborne visible infrared imaging spectrometer  
BB-ADCP = broad-band acoustic Doppler current profiler  
BDRF = bidirectional reflectance factor  
BOD = biological oxygen demand  
BSE = backscattered scanning electron microscopy  
CAAD = computer aided architectural design  
CAD = computer aided design  
CALIB = age calibration program  
CALINE = California line source dispersion model  
CASE = computer assisted software engineering  
CCD = charge coupled device  
CD-ROM = compact disk read-only memory  
CEC = cation exchange capacity  
CENTURY (soil model)  
CERCO = European Committee of official cartography specialists  
CFCs = chlorofluorocarbons  
CISK = conditional instability of the second kind  
COD = chemical oxygen demand  
CORINE = co-ordinated information on the environment in the EC  
COSSY = cobble satellite system  
CREAMS = chemicals, runoff & erosion from agricultural management systems



CRISTA (trace gas measuring limb sounding infrared experiment)  
 CSPIM = complex storm point infiltration model  
 CZCS = coastal zone colour scanner  
 DBMS = database management system  
 DDT = dichlorodiphenyltrichloroethane  
 DEM = digital elevation model  
 DIAL = differential absorption lidar  
 DIGEST (data transfer standard)  
 DLG = digital line graph  
 DO = dissolved oxygen  
 DOC = dissolved organic carbon  
 DOM = dissolved organic matter  
 DORIS = doppler satellite tracking/positioning system  
 DPASV = differential pulsed anodic stripping voltammetry  
 DRIVE (European industrial project)  
 DTM = digital terrain model  
 DYANA = dynamics adapted network for atmosphere  
 ECDIS = electronic chart display information system  
 ECMWF = European Centre for medium range forecasting  
 EDM = electronic distance measurer  
 EDSS = environmental descision support system  
 EDTA = ehtene diamine tetra-acetic acid  
 EEC = European Economic Community  
 ELA = equilibrium line altitude  
 ELISA = enzyme linked imunosorbent assay  
 ELLESCO = Eulerian-Lagrangian least-squares collocation  
 EOS = Earth observing system  
 EPA = Environmental Protection Agency  
 ER-2 = Earth radiation  
 ERBE = Earth radiation budget satellite  
 ERM = Earth radiation monitoring  
 EROD = ethoxyresorufin-O-deethylase  
 ERS = Earth resources satellite  
 ERS-1 = Earth resources satellite 1 (European)  
 ESA = European Sapce Agency  
 ESR = electron spin resonance  
 ET = evapotranspiration  
 ETD = estimated time of departure  
 EXPRES = expert system for pesticide regulatory evaluation simulations  
 FAST = Fourier amplitude sensitivity test  
 FGGE = first GARP (global atmospheric program) global experiment  
 FIFE = first ISLCCP field experiment  
 FIPS = Federal information processing standard  
 FM = frequency modulation  
 FTIR = Fourier transform infrared



GANOVEX VI (Antarctic expedition)  
 GCM = general circulation model  
 GEM-T3 = global environmental monitoring  
 GEORISK (slope stability survey project)  
 GESIMA = geostationary simulation model of the atmosphere  
 GILS = see GIS  
 GIS = geographic information system  
 GLONASS Russian ground positioning system - see also GPS  
 GLORIA = geological long range inclined ASDIC  
 GLUE = generalised likelihood uncertainty estimation  
 GOES = geostationary operational environmental satellite  
 GOS see GIS  
 GPR = ground penetrating radar  
 GPS = ground positioning system  
 GRASS = geographical resources analysis support system  
 GRID = global resource information database  
 GTS = global telecommunication system  
 HBV = high beam vidicom  
 HCFC = hydrochlorofluorocarbons  
 HEIFE = atmosphere-land surface processes in Hei He River basin  
 HEPD = I-hydroxyethane-1, I-disphonic acid  
 HFCs = hydrofluorocarbons  
 HFEs = hydrofluoroethers  
 HIRS = high resolution infrared radiation sounder  
 HPLC = high performance liquid chromatography  
 ICAP-AES = inductively coupled argon plasma atomic emission spectroscopy  
 ICE-3G (deglaciation model)  
 ICP-MS = inductively coupled plasma mass spectrometry  
 IGCP = international global change programme  
 IHDM = Institute of Hydrology distributed model  
 IPCC = intergovernmental panel on climate change  
 IR = infrared  
 IRDS = information resources dictionary system  
 IRS = Indian Remote Sensing Satellite  
 IRSL = infrared stimulated luminescence  
 ISCCP = international cloud climatology project  
 ISLSCP = international satellite land surface climatology project  
 ITCZ = intertropical convergence zone  
 KALMOD (groundwater flow model with Kalman filtering)  
 KWAS = ILWAS (watershed acidification model)  
 LAI = leaf area index  
 LAMMA = laser microprobe mass analysis  
 LAN = local area network  
 LAS = laser aerosol spectrometer  
 LIMS = limb infrared monitor of the atmosphere



LIS = land information system  
 LISA = level I stability analysis  
 LISP = high level computer language  
 LOWTRAN (atmospheric water absorption database)  
 LTAC = long-term average concentration  
 MacFuzzy (generalised fuzzy-k means numerical pattern analysis)  
 MAGIC = model of acidification of groundwater in catchments  
 MANSALO (soil sample collector)  
 MAPSTAR (medium-frequency imaging Doppler interferometer radar)  
 MDWC = modified distance weighted correlation  
 MEGIN (European geographical data standards project)  
 MESA = maximum entropy spectral analysis  
 MESSR = multispectral electronic self scanning radiometer  
 MICCP = mixed integer chance constrained programming  
 MOKAVOD (point source pollution transport modelling program)  
 MODIS = moderate resolution imaging spectroradiometer  
 MOMS = modular opto-electronic self scanning radiometer  
 MOS = marine observation satellite  
 MS = Microsoft  
 MSS = multispectral scanner  
 MST mesosphere-stratosphere-troposphere radar  
 NAVSTAR = navigation system with time and ranging  
 NDVI = normalised difference vegetation index  
 NESDIS = national environmental satellite data service  
 NIRRL = Northern Ireland Regional Research Laboratory  
 NMR = nuclear magnetic resonance  
 NOAA = National Oceanic and Atmospheric Administration  
 NOAMP = NorostAtlantisches Monitoring program  
 NVDI see NDVI  
 OCD = offshore nad coastal dispersion model  
 ODP = ocean drilling project  
 OMEGA (navigation system)  
 PAH = polycyclic aromatic hydrocarbons  
 PAN = peroxyacetyl nitrate  
 PAR = photosynthetically active radiation  
 PC = personal computer  
 PCB = polychlorinated biphenol  
 PCDD = polychlorinated dibenzodioxin  
 PCDF = polychlorinated dibenzofuran  
 PEEP = photo-electronic erosion pin  
 POC = particulate organic carbon  
 POM = particulate organic matter  
 PONAM = Polar Atlantic margins ; late Cenozoic evolution  
 PROFILE (soil chemistry model)  
 PROMETHEUS = (European industrial project) see DRIVE



QUICK (third-order truncation error difference scheme) see QUICKEST  
 QUICKEST (third-order truncation error difference scheme) see QUICK  
 RAISON = regional nanlysis by intelligent systems on microcomputers  
 RANDOM = humate model  
 RASS = radio acoustic sounding system  
 RCS = radar cross section  
 RECLUS (French geographical research group)  
 REE = rare earth element  
 RISC (photogrammetric workstation)  
 RUSLE = revised universal soil loss equation  
 RVI = ratio vegetation index  
 SAGE = stratospheric aerosol and gas experiment  
 SAIL (canopy refelctance model)  
 SAR = synthetic aperture radar  
 SASW = surface analysis of surface waves  
 SBUV = solar backscatter ultraviolet instrument  
 SDTS = spatial data transfer standard  
 SeaWifs = sea viewing wide field of view sensor  
 SEM = scanning electron microscope  
 SHE = systeme hydrologique europeen  
 SHIFT = sistema hidrologici defacetas triangulares  
 SIR = shuttle imaging radar  
 SLAR = sideways looking airborne radar  
 SMMR = scanning multichannel microwave radiometer  
 SOCOMO = soil cohesion model  
 SOI = Southern Oscillation Index  
 SOILCHEM (thermodynamic speciation model)  
 SPECMAP (deep-sea sediment reference core)  
 SPOT = systeme pour l'observation de la terre  
 SSM/I = special sensor microwave/imager  
 SSSI = site of special scientific interest  
 STREAM (pesticide runoff exposure assessment methodology)  
 SWC = soil and water conservation  
 SWITCH (sediment-water nutrient exchange model)  
 SYNOP = synoptic ocean presiction experiment  
 TERPS = terraces for erosion and runoff program simulation  
 TIBL = thermal internal boundary layer  
 TIGER = topologically integrated geographic encoding and referencing  
 TIMS = thermal infrared multispectral scanner  
 TIN = triangulated irregular network  
 TM = Thematic Mapper  
 TOGA = Tropical oceans global atmosphere  
 TOMS = total ozone mapping spectrometer  
 TOPEX = NASA ocean topography experiment  
 TOPOG (groundwater model)



TOVS = Tiros operational vertical sounder  
TRAACS ( soil sample analyser)  
UNCED = United Nations Centre for Education & Development  
UNIRAS (graphics software)  
USGS = United States Geological Survey  
USLE = Universal soil loss equation  
VAD = velocity-azimuth display  
VHF = very high frequency  
VISSR = visible infrared spin scan radiometer  
VLBI = very long baseline interferometry  
WAGS = worldwide atmospheric gravity wave study  
WHITEX = winter haze intensive tracer experiment  
XRD = X-ray diffraction







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**antifouling paint**

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**Antiquity (classical)**

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**antislope scarp**

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**aquatic ecosystem**

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**aquatic environment**

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**basin irrigation**

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**basin management**

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- Basin; 08080. land classification, semidistributed model, lumped model, hydrograph, satellite imagery, Canada, British Columbia, Rocky Mountains; 08076. sediment graph, weathering, bedload, channel, arid zone, suspended sediment, India, Luni River; 03260. SHE, hydrological modelling, India, Madhya Pradesh, Narmada River, Kolar Catchment; 08081.
- basin origin**  
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- basin perimeter**  
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- basin plain**  
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- basin reclamation**  
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- basin relief**  
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- basin response**  
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- basin simulation**  
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- basin size**  
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- basin slope**  
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- basin subsidence**  
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- basin topology**  
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- batch conditions**  
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- Batchelor scale**  
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- bathyal front**  
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- bathyal nutricline**  
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- bathymetric data**  
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- bathymetric data set**  
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- bathymetric map**  
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- Batostoma**  
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- bauxite mining**  
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- Bayesian decision analysis**  
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- Bayesian decision theory**  
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- Bayesian estimation**  
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- Bayesian filter**  
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- Bayesian inference**  
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- Baynton Basalt**  
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- bayou**  
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**beach sediment**

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- bedform stability**  
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- bedform steepness**  
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- bedload**  
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- Croatia, Drava River; Slovenia, Drava River; 06936. channel, arid zone, suspended sediment, basin model, sediment graph, weathering, India, Luni River; 03260. current, sensitivity analysis, flow velocity, wave, suspended load, sediment transport, 02111. estuary, delta, sedimentation, cliff, valley, South Africa, Natal, Mtamvuna Estuary; 12263. fine grained sediment, sand, sediment transport, tracer, France, English Channel, Dover Strait; UK, English Channel, Dover Strait; 12294. flow resistance, sediment transport, storm sewer, shear stress, bedform, 04331. hydrography, estuary, mixing, India, Kerala Coast, Cochin Estuary; 12265. modelling, avalanche frequency, Holocene (late), groper, natural hazard, snow avalanche, plunge pool, Norway; 11409. overbank sediment, river bank, channel geometry, river sinuosity, Poland, Western Carpathians, Raba River; 11072. river deposit, stochastic model, sandstone, floodplain, channel, 08898. river regulation, channel adjustment, Poland, Vistula River; 09934. roughness, velocity profile, channel, turbulent boundary layer, alluvial channel, gravel, grain size, sand, 05404. sampler, sediment transport, river management, reservoir, China, Yangtze River; 08908. sediment oxygen demand, water quality, storm, sewer, pollutant, sewer overflow, UK, England, Roch River; 04403. sediment transport, wash load, pump sampling, sediment rating, Philippines, Luzon, Magat River Basin; 10447. suspended load, estuary, salinity, halocline, sediment transport, river mouth, salt wedge, Canada, British Columbia, Fraser River Estuary; 00030. suspended sediment, sediment yield, erosion, forestry, UK, Scotland, Balquhadder; 12316.
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- bedload discharge**  
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- bedload gravel**  
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- bedload pulse**  
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- bedouin population**  
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- bedrock aquifer**  
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- bedrock bench**  
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- bedrock erosion**  
subsurface stratigraphy, deglaciation, glacial trough, seismic reflection survey, piston core, USA, New York, Appalachian Plateau, Otsego Lake; 06729.
- bedrock geology**  
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- bedrock groundwater**  
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- bedrock lithology**  
Precambrian terrain, sediment geochemistry, ephemeral stream, arid zone, streamwater chemistry, Israel; 09327.
- bedrock-soil conversion**  
uplift rate, soil creep, weathering rate, chronometry, conversion rate, USA, California, Contra Costa County, Black Diamond Mines Regional Park; 05764.
- bedrock structure**  
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- bedrock temperature**  
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- bedrock topography**  
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- bedrock trough**  
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- bedrock weathering**  
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- beech coppice**  
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- beech forest**  
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- beckite**  
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- Beer Head Limestone Formation**  
Cenomanian, hardground, glauconite, phosphate, diagenesis, UK, England, Devon, Seaton; 08867.
- beetle**  
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- beetle fauna**  
Brorup Interstadial, fossil flora, Weichselian, interstadial sediment, vegetation, Sweden, Harnosand; 06541. Quaternary (late), fossil insect assemblage, refugium, mesic species, hygrophilous species, USA, Alaska; 00307.
- Beggiatoa**  
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- behavioural geography**  
GIS, environment, USA, California, San Diego; 08710.
- beidellite**  
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- Belfast curve**  
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- Belfast dendrochronology**  
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- bell shaped ridge**  
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- Bellingham glaciomarine drift**  
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- bend stability**  
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- bending**  
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- bending creep**  
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- bending moment**  
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- benggang erosion**  
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- Benguela Coastal Current**  
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- Benguela Current**  
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**Benguela Current ecosystem**

Tertiary, continental margin, littoral drift, delta, organic matter, ooze, phosphorite, South Africa, Orange River; Namib Sand Sea; South Africa, Cape Columbine; 02167.

**Benioff zone**

debris flow, mud volcano, volcanoclastic sediment, ODP Leg 125, rheology, serpentinite mud, diapir, Pacific, Bonin-Mariana Area, Torishima Forearc Seamount; Conical Seamount; 03253.

**benthic activity**

fine grained sediment, wave, erosion, amphipod, aggregate, shear strength, sediment texture, Canada, Fundy Bay; 04449.

**benthic algae**

phytoplankton, zooplankton, limnology, lake water chemistry, salt content, nutrient content, Antarctica, Terra Nova Bay; 11666.

**benthic boundary layer**

bed friction, wave-current interaction, internal wave, USA, Chesapeake Bay; 00985. instrumentation, resuspension, lake, bottom sediment, sedimentation, Finland, Pajanne Lake; 05413. ocean margin, estuary, anthropogenic input, organic matter, biogeochemical cycle, fluvial sediment, accumulation, 00168. oxygen, primary production, particulate organic carbon, Pacific, (North); 02265. sediment water interface, burial, denitrification, accumulation, organic matter, fauna, mineralisation, 00126.

**benthic chamber**

flux, porewater, sediment-water interface, bioturbation, heavy metals, Tyrrhenian Sea; 03319.

**benthic ecology**

deep sea ridge, advection, clay, silt, sedimentation rate, biomass, Norwegian Sea, Voring Plateau; 02240.

**benthic fauna**

manganese, seabed, size distribution, nodule growth, Pacific, (Northeast), Clarion-Clipperton region; 09924. sediment-water interface, Monod kinetics, organic carbon, deep sea sediment, 09985.

**benthic flux**

DOC, seawater, oxidation, mixing, porewater, oxygen uptake, 05537. oxygen demand, interstitial water, nutrient, primary productivity, Spain, Cadiz Bay; 12371. phytoplankton, organic matter, recycling, eutrophication, nutrient, Adriatic Sea; Italy, Po River Delta; 07668.

**benthic foraminifera**

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**benthic habitat**

flow velocity, bed roughness, flow classification, flow regime, near bedflow regime, 09279.

**benthic invertebrate**

turbidity, suspended solids, epilithon, clay particle, streamwater quality, New Zealand, South Island; 09348.

**benthic macroinvertebrates**

water quality assessment, sampling technique, summary indices, Canada, Quebec, Yamaska River; 00549.

**benthic organism**

fish, conservation, bathymetry, glacial deposit, organism, seabed sediment, UK, Scotland; Atlantic, (North); 04375. surface water quality, heavy metals, pesticide, detergent, hydrocarbon, plankton, 04885.

**benthic-pelagic coupling**

submarine groundwater, solute flux, groundwater discharge, seawater cycling, material flux, sediment-water interface, marine environment, USA, Florida, Florida Keys; 02656.

**benthic pollution**

lake water quality, pollution mapping, pulp mill, echo sounding, Russian Federation, Ladoga Lake; 09351.

**benthic POM**

streamwater quality, prairie stream, size fraction, POM, USA, Texas; 03816.

**benthic storm**

contourite, abyssal sediment, continental rise, 07651.

**benthic system**

spring bloom, biomass, oxygen consumption, carbon, mesocosm, organic matter, North Sea; 02267.

**benthos**

burrow, bottom water, bacteria, shelf sediment, nitrogen, Bering Sea; Chukchi Sea; 10017. carbon, diatom, sedimentation, subarctic ecosystem, spring bloom, nutrient, USA, Alaska, Auke Bay; 04475. ground truthing, nearshore environment, USA, Florida Straits; 08677. nutrient, stratification, organic matter, fjord, energy supply, sedimentation, seasonal variation, primary production, water column, freshwater, phytoplankton, spring bloom, Norway; 02260. plankton, phytodetritus, marine snow, cyanobacteria, salp, Atlantic; 10015. POM, plankton, sediment-water interface, seafloor, Atlantic, (North), BIOTRANS Station; 07730. respiration, fjord, sedimentation rate, organic carbon, water column, Norway; 10010. river water chemistry, lake water chemistry, biogeochemistry, zoogeography, Arctic

limnology, chlorophyll, zooplankton, USA, Alaska; 04963. seasonal change, seafloor, water column, sediment trap, organic matter, Atlantic, (North); 09923. seawater transparency, nodule, ocean floor, burial, mining, 04385.

**benthos survey**

anthropogenic impact, trace metals, North Sea; 09940.

**bentonite**

beidellite, goethite, iron, Mossbauer spectroscopy, Czech Republic, Ceske Stredohori Mountains, Stebno; 10041. cation, clay, hydrolysis, pesticide, chlorfenvinphos, methidathion, kaolinite, 00427. Holocene, mud, volcanic glass, smectite, shelf sediment, New Zealand, North Island, Firth of Thames; 08769. lithofacies, nannofossil, claystone, volcanism, ODP Leg 123, ash layer, diagenesis, abyssal plain, passive margin, Indian Ocean, Wombat Plateau; Argo Abyssal Plain; Indian Ocean, Exmouth Plateau; Indian Ocean, Gascogne Abyssal Plain; 03309. silt, radiometric experiment, suspension, radiation, grain size, spectral reflectance, suspended inorganic matter, 03404. smectite, structural formula, acid dissolution, XRD, Neogene, weathering, Czech Republic; Slovakia; 03397. smectite, structural formula, infrared spectroscopy, OH vibration, clay, Czech Republic; Slovakia; 03398. swelling pressure, effective stress, plastic clay, expansive clay, 11280. thixotropy, interparticle linking, rheological modelling, debris flow, microstructure evolution, clay water mix, 10419.

**benzo(a)pyrene**

formaldehyde, toxic pollutant, air pollution index, Russian Federation; 10798.

**benzene**

dichloromethane, diffusive transport, volatile organic compounds, organic compound, 11538. soil venting, leaching, naphthalene, xylene, toluene, 10536. toluene, ethylbenzene, xylene, biotransformation, denitrification, anaerobic conditions, groundwater contamination, Canada, Ontario, Borden Aquifer; 09396. toluene, sandy aquifer, bioremediation, transport, groundwater contamination, biodegradation, 01596. urban air pollution, volatile organics, toxic chemical, halocarbon, USA, California; 04084.

**benzo(a)pyrene**

benzo(ghi)perylene, surface water quality, PAH, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, Italy, Piedmont, Alessandria; 05931. PAH, soil pollution, roadside pollution, zinc, lead, cadmium, Germany, Dortmund; 04801.

**benzo(b)fluoranthene**

benzo(k)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, surface water quality, PAH, fluoranthene, Italy, Piedmont, Alessandria; 05931.

**benzo(ghi)perylene**

surface water quality, PAH, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, Italy, Piedmont, Alessandria; 05931.

**benzo(k)fluoranthene**

benzo(a)pyrene, benzo(ghi)perylene, surface water quality, PAH, fluoranthene, benzo(b)fluoranthene, Italy, Piedmont, Alessandria; 05931.

**benzoic acid**

aniline, toluene, organic compound, chromatography, volatile compound, 03635.

**Bering Glacier model**

deglaciation, Pleistocene, sediment source, debris transport, depositional environment, USA, New York, Appalachian Plateau; 12558.

**Bering Land Bridge**

fossil, pollen, palaeoecology, late glacial, peat, USA, Alaska; Chukchi Sea; 06737.

**Bering, V.**

Great Northern Expedition, Arctic Ocean, Bering Strait; 06315.

**berm**

dredged material, sediment transport, beach erosion, longshore bar, USA, North Carolina, Duck; 07624. hydraulic design, flow resistance, two stage channel, flow coherence, shear zone interaction, floodplain, 08096.

**bermudagrass**

desert environment, nitrous oxide, USA, Arizona, Sonoran Desert; 11928.

**Berriedale Flagstone**

evaporite, Devonian, lacustrine facies, pseudomorph, UK, Scotland, Caithness, Berriedale; 12341.

**berthierine**

Miocene, ooid, ironstone, shelf sediment, shale, transgression, clay mineral, Malaysia; 05479.

**beryllium**

baseflow, geochemistry, groundwater contamination, soil water contamination, UK; 09387. industrial emission, streamwater quality, atmospheric deposition, UK, Wales, Plymlimon; 01436. molybdenum, anthropogenic impact, waste, sediment pollutant, silver, Czech Republic, Bohemia, Elbe River; 12326. peat, Holocene, sulphur, palaeoclimate indicator, boron, Egypt, Nile River Delta; 08888. scavenging, residence time, tracer, deep sea sediment, deposition rate, burial rate, Holocene, Pacific; 03305.

**beryllium-10**

cosmogenic nuclide, fossil coral, last glacial maximum, production rate, uranium/thorium dating, Pacific; 00257. dust flux, paleosol horizon, magnetic susceptibility, loess, oxygen isotope record, time scale, China, Loess Plateau, Luochuan; 08983. glacial maximum, ice polished rock, striae, crescentic gouge, roches moutonnees, weathering, exposure age, Antarctica, Victoria Land; Filchner Ice Shelf, Shackleton Range; 04584.

**beryllium-10 dating**

nunatak, ice core, moraine, quartz, till, glacial geology, Antarctica, Victoria Land, Prince Albert Mountains; 09035.

**beryllium-7**

lead-210, aircraft sampling, Arctic Boundary Layer Expedition, Arctic; 05181. sulphur dioxide, nuclide, aerosol sulphate, cosmic ray, cosmogenic nuclide, depositional flux, sulphur-35, 04089.

**beryllium isotope**

sediment recycling, subduction, forearc, decollement, isotope, ODP Leg 123, Indian Ocean, Argo Abyssal Plain; 03345.

**Bestyakhskaya terrace**

thawed filtering horizon, permafrost, mathematical modelling, Russian Federation, Lena River, Yakutsk; 09092.



- beta effect**  
barotropic vortex, simplified scheme, Hurricane Model, asymmetry, 07229.  
low order model, baroclinic model, meridional heating, zonal heating,  
Lorenz model, interannual variability, chaotic behaviour, 05109.
- beta-pinene**  
monoterpene emission, timber barking, saw mill, spruce, alpha-pinene,  
06244.
- beta plane**  
barotropic vortex, subtropical ridge, model, 03983.
- beta radioactivity**  
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river water quality, USA, Washington, Columbia River, Hanford Reach;  
02695.
- beta shaped pulse**  
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- Bhandar Group**  
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India, Madhya Pradesh, Satna; 07693.
- Bhander limestone**  
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cave, cave passage, India; 04579.
- Bhuj sandstone**  
Cretaceous, bedform, deposition, slack water, current, bundle structure,  
cross-bedding, mud drape, India, Kachchh, Gujarat; 02121.
- Bible**  
Talmud, medieval cartography, Rabbi Solomon of Troyes, 00844.
- biblical map**  
map, map interpretation, 10916.
- bibliographical documentation**  
computer aided generalisation, digital cartographic model, ATKIS, 00858.
- bibliography (1991)**  
weather service, agrometeorology, Germany; 01708.
- bidecadal calibration**  
radiocarbon time scale, dendrochronology, calendar date, Seattle sequence,  
Belfast sequence, 11305. radiocarbon timescale, calibration curve, Belfast  
dendrochronology, 11306.
- bidirectional reflectance**  
instrument comparison, reflectance measurement, prairie, grassland, 06111.  
polarisation, soil reflectance, scattering mechanism, 07478. reflectance  
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filter, evaporative loss, fine particulate, nitrate, sampling, annular denuder, 06234.
- cascade model**  
lognormal cascade model, scaling process, basin scale, flood peak distribution, multiscaling process, USA, Maryland, Appalachian Mountains; Virginia, Appalachian Mountains; 05908.
- cascade reservoir system**  
reservoir operation, river regulation, flood management, Yugoslavia, Bosnia-Herzegovina, Drina River; 08258.
- CASE**  
GIS, software development, 10909.
- case based management**  
reasoning concept, water erosion prediction project, soil erosion, model, USA; 04704.
- case history**  
Vigil Network, long term monitoring, landscape change, USA, Wyoming, Last Day Gully; 10058.
- case law**  
boundary demarcation, Surveys Act, Canada, Ontario; 02101.



**case study**

unconsolidated sediment, permafrost, urban construction, Canada, Northern Territories, Inuvik; Tuktoyaktuk; Canada, Northern Territories, Sachs Harbour; 06774.

**catchment**

contour hedge, agroforestry, erosion control, *Grevillea robusta*, bare fallow, Rwanda, Butare; 02475.

**cassava management**

soil loss, traditional polyculture, monoculture, soil erosion, water conservation, Nigeria; 11434.

**Cassidulina reniforme**

Younger Dryas, cooling event, palaeoclimate, pollen analysis, benthic foraminifera, Canada, British Columbia, Queen Charlotte Islands; 09037.

**Castelgomberto Limestone**

Oligocene, platform, coral, cyclicity, limestone, Italy, Alps, Eastern Lessini Mountains; 07688.

**Castleciffian**

Reu Reu Formation, shell bed, palaeoecology, Pleistocene (Middle), Waiomio Shellbed, New Zealand, Wanganui Basin; 02437.

**Castro Formation**

limestone, breccia, ostracod, Carnian, fossil, Italy, Lombardy; Southern Alps; 00097.

**casualty risk**

earthquake, hazard mitigation, digital map layer, property damage, USA, Utah, Salt Lake County; 09800.

**Casuarina**

Holocene, vegetation history, swamp, steppe, eucalypt forest, pollen, charcoal, Australia, Bass Strait, Flinders Island; 07894.

**Casuarina plantation**

organic matter, soil management, forest floor, mineral soil, sand dune, Senegal; 07998.

**cataclasis**

strain, fluid pressure, weakening mechanism, fault, seismic characteristic, USA, California, San Gabriel Fault; San Andreas Fault; USA, California, Punchbowl Fault; 07780.

**cataclastic flooding**

Sand Hills Coulee Soil, Washtucna Soil, Old Maid Coulee Soil, Devis Canyon Soil, Quaternary (late), stratigraphy, loess, tephra, USA, Washington, Columbia Plateau, Channeled Scabland; Palouse; 04650.

**catagenesis**

hydrocarbon, deposition, continental margin, Cretaceous, biomarker, geochemistry, organic matter, Cainozoic, abyssal plain, Indian Ocean, Argo Abyssal Plain; Gascoyne Abyssal Plain; 03390. sedimentation, diagenesis, geochemistry, Palaeogene, organic matter, bioproductivity, Caucasus; USSR, Kabardina-Balkariya, Kheu River, Nal'chik; 01097.

**catalogue**

cartographic catalogue, Antarctic Treaty, Antarctica; 09774. map collection, user demand, 03106. standard, spatial data, map, 03105.

**catalytic enzyme**

horseradish peroxidase, chlorophenol, wastewater treatment, hazardous waste treatment, 11621.

**catastrophic disturbance**

time, channel evolution, fluvial system, energy dissipation, 03424.

**catastrophic event**

Heinrich layer, potassium/argon dating, ice rafted detritus, Last Glacial, Atlantic, (North); 12528. relief formation, mountain, avalanche, Bulgaria; 02299.

**catastrophic failure**

Newmark landslide displacement, shaking, seismicity, landslide, earthquake shaking, USA, Kentucky; Missouri, New Madrid; USA, Illinois; USA, Tennessee; 11288.

**catastrophic flood**

Arctic Ocean, glacial Lake Agassiz, palaeoflood, Canada, Alberta, McMurray Fort; 07851. flood (1940-1942), Hungary; 08301. snowmelt, bedload transport, channel change, stream response, recovery, subalpine stream, USA, Colorado, Rocky Mountain National Park, Fall River; Roaring River, Lawn Lake; 12405.

**catastrophic flooding**

lake, hazard, overtopping, landslide dam, USA, Montana, Glacier National Park; 03485.

**catastrophic landslide**

GIS, database, log linear model, landslide distribution, loess, China, Loess Plateau; 06665.

**catastrophic process**

relief formation, ecological risk, anthropogenic impact, 10127.

**catastrophic rain**

landslide, rainfall, debris flow, rock fall, gully, India, Himalaya, Darjeeling Himalaya, Ambootia T.E.; 02341.

**catastrophic resurfacing model**

equilibrium resurfacing model, resurfacing rate, impact crater, resurfacing history, Venus; 05601.

**catastrophic storm**

forest, storm (Feb-Mar 1990), Germany; 05054.

**catchment**

hydrological property, DTM, automated extraction, 06388. soil erosion, Chernobyl fallout, radiocaesium, 11067. surface flow, heterogeneity, hillslope, hydrology, distributed model, subsurface flow, uncertainty, model, 00489. water balance data, long term variability, UK, Wales, Plynlimon; 09517.

**catchment acidification**

acidification, buffering capacity, soil water chemistry, surface water quality, atmospheric deposition, Germany, Harz Mountains; 00529. buffering, acidification, runoff chemistry, geochemistry, USA, Hubbard Brook; Norway, Sogndal; Norway, Birkenes; Norway, Risdalsheia; 04890.

**catchment area**

bacteria density, faecal coliform, effective precipitation, river water quality, Japan, Ehime Prefecture, Ishite River; 05961. chlorine, nitric acid, geochemistry, representative catchment, 05928. groundwater protection, Todd's method, flow, recharge, water quality management, 01575. limestone, geology, hydrology, speleology, sprung discharge, Cretaceous (Lower),

France, Rhone Valley, Fontaine de Vauluse; Mount Ventoux; 00239. stream-aquifer model, basin slope, baseflow recession constant, basin hydraulic conductivity, drainable soil porosity, low flow estimation, geohydrologic-geomorphic relationship, USA, Massachusetts; 04857.

**catchment boundary**

boundary calculation, watershed definition, river network, raster database, 02618.

**catchment characteristic**

land use, dam sedimentation, sediment yield, sediment transport, runoff, sedimentation survey, Australia, New South Wales, Southern Tablelands; 09293. wet deposition, lake water chemistry, acidification, lithology, Italy, Apennines; 11665.

**catchment characteristics**

hydrograph estimation, multiple event, computer program, unit hydrograph, rainfall/runoff, 04850. rainfall/runoff, hydrograph estimation, multiple event, unit hydrograph, catchment lag, 04851. urban runoff, rainfall/runoff model, surface retention, infiltration, storm characteristics, 12872.

**catchment classification**

ungauged catchment, hydrological parameter, flow regime, unit hydrograph, runoff, UK; 11577.

**catchment erosion**

numerical model, slope, erosion, weathering, 01306.

**catchment evolution model**

hillslope properties, drainage density, catchment properties, 00180.

**catchment export**

eutrophication, lake water, groundwater inflow, nutrient inflow, Poland, Lecznysko-Wlodawskie, Piaseczno Lake; 01502.

**catchment history**

deforestation, Holocene, diatom, pollen, eutrophication, Sweden, Skane; 12232.

**catchment hydrology**

basin hydrology, montane catchment, topography, runoff, infiltration, France, Cevennes, Mont-Lozere; 06928. carbon dioxide level, water yield, soil moisture content, transpiration, tree growth, climate change, hydro-ecological response, 09236.

**catchment lag**

catchment characteristics, rainfall/runoff, hydrograph estimation, multiple event, unit hydrograph, 04851.

**catchment management**

flood protection, streamflow, water quality management, water resource management, UK, England; Wales; 08242. land use, forest, riverine environment, river conservation, UK; 00672. moorland ditching, water discolouration, spatial distribution, moorland burning, hazard mapping, UK, England, North Yorkshire, Upper Nidd Valley; 00537. river protection, resource management, river management, riverine environment, Canada, Ontario; 00674.

**catchment model**

digitised map, remote sensing, GIS, distributed model, rainfall/runoff, UK, Wales, Tywi; 00494. hillslope hydrology, computer simulation, distributed model, subsurface flow, heterogeneity, flow path, 00493. overland flow, Hortonian overland flow, runoff, physically based model, terrain-based model, model verification, parameter estimation, hydrological model, USA, Arizona, Walnut Gulch; Australia, New South Wales, Wagga Wagga, Lucky Hills; 04859. parameter estimation, runoff, probabilistic technique, calibration parameter, Singapore; 12874. rainfall/runoff model, grassland catchment, arid catchment, hydrological model, deterministic model, USA, Arizona; South Africa; 11574. rainfall/runoff, soil piping, Canada, British Columbia; 12863. sediment transport, nutrient transport, model verification, parameter estimation, physically based model, hydrological model, 04860. soil erosion simulation, Caesium-137 technique, runoff simulation, Netherlands, Limburg, Etzenrade Catchment; UK, England, Devon, Yandacott; Netherlands, Limburg, Catsop Catchment; 12094. soil property, heterogeneity, subsurface flow, flow path, solute transport, distributed model, catena, 00492. TOPOG/yield model, soil water flow, numerical solution, Richards' equation, soil moisture, moisture redistribution, 10503.

**catchment morphology**

karst, tectonics, numerical modelling, China, Guizhou; 05626.

**catchment parameter**

evapotranspiration, streamflow recession, Denmark, Alling River; Tude River; 01455.

**catchment physiography**

water quality, sediment composition, Oligochaeta, reservoir classification, Spain, Ebro Basin; 03783.

**catchment planning**

nitrate, buffer zone, water quality management, land use, agriculture, UK; 07086. river protection, riverine environment, corridor environment, river corridor, flood, pollution, water level decline, UK, Thames River; 00673.

**catchment properties**

catchment evolution model, hillslope properties, drainage density, 00180.

**catchment release**

lake catchment, radionuclide, soil retention, caesium, Chernobyl nuclear accident, peat soil, UK, England, Cumbria, Devoke Water; 06966.

**catchment response**

runoff chemistry, acid anion loading, streamwater chemistry, Canada; 03796.

**catchment runoff**

erosion potential, GIS, terrain analysis, radiation, soil water content, Australia, Lockyerleigh; 12134.

**catchment scale**

geostatistical method, soil water content, temporal variability, spatial variability, 09363. water balance model, evaporation, potential evaporation, spatial variability, rainfall, USA, Kansas, Konza Prairie, King's Creek; 08072.

**catchment size**

erosion, Holocene, sediment yield, lake sediment, river, Canada, British Columbia; 08736.

**catchment topography**

hydraulic conductivity, landscape position, rainforest soil, South America, Amazon Basin; 07968.



**catchment treatment**

afforestation, acidification, liming, atmospheric deposition, UK, Wales, Llyn Brianne; 01495.

**catchment vegetation**

grassland, erosion rate, POC, carbon isotope, Brazil, Amazon Basin; 05665.

**catchment yield**

climate data, land data, baseflow, streamflow recession, low flow frequency, flow duration, rainfall/runoff model, ungauged catchment, Australia, Victoria; New South Wales; 02607.

**categorical data**

overlay, uncertainty, GIS, error model, 00828.

**catena**

catchment model, soil property, heterogeneity, subsurface flow, flow path, solute transport, distributed model, 00492. end moraine, morphosculpture, landscape ecology, young moraine, Germany, Pomerania; 06623. paleosol, environmental interpretation, soil zonality, 00380. soil development, puna, moraine soil, landscape position, Peru, Andes; 07991. soil erodibility, prairie landscape, hillslope, till, erosion, rainsplash, 02472. soil geochemistry, geochemical mapping, 10250. soil sequence, geomorphological unit, agricultural planning, Senegal, Senegal Valley; 12827. solifluction, slope deposit, soil stratification, landscape position, USA, Utah, La Sal Mountains; 06894.

**Catfish Creek drift**

glacial lobe, Huron-Georgian Bay lobe, rheological superposition, Erie lobe, lobe interaction, subglacial till, Canada, Ontario, Bradville; 00287.

**cathodoluminescence**

apatite, carbonate fluorapatite, precipitation, manganese, iron, 08863. isotope, calcite, cement, temperature, water-rock interaction, Egypt; 00120. isotope, paragenesis, ankerite, cementation, Zechstein, Belgium, Campine Basin, Bree Borehole; 06554.

**cathodoluminescence microscopy**

BSE microscopy, carbonate, apparatus, petrology, education, 10044.

**cation**

ammonium deposition, coniferous forest, forest soil, atmospheric deposition, nitrification, Netherlands; 09223. clay, hydrolysis, pesticide, chlorfenvinphos, methidathion, kaolinite, bentonite, 00427. groundwater chemistry, soil water analysis, metal concentration, atomic absorption spectroscopy, sorptive concentration, cation exchange resin, organic matter, 02734. kaolinite, clay-water system, diffusion, 07742.

**cation adsorption**

humic acid, ion exchange equation, 10315.

**cation binding**

humic substance, proton dissociation, metal binding, metal complexation, 04743. organic matter, fulvic acid, groundwater quality, humic acid, Germany, Niedersachsen, Fuhrberg; 09397.

**cation concentration**

anion concentration, sulphate, lake water chemistry, ANC, 12950. Chernozem, agrochemical, soil chemical property, nutrient concentration, 01367.

**cation desorption**

trace metals, sandstone aquifer, interstitial water, cation exchange, silicate weathering, unsaturated zone, acid deposition, 00611.

**cation diffusion**

coupled diffusion, exchangeable cation, 08019.

**cation exchange**

chloride injection, soil water pathway, peat bog, Norway, Birkenes; 11628. desorption, montmorillonite, 11216. dispersion, organic matter, smectite, ultrasonic, KOH, peroxide, clay mineral, Brazil, Roraima; 02277. flocculation, perchlorate solution, illite suspension, proton effect, Silver Hill illite, 05839. hydrological cycle, atmospheric deposition, soil water chemistry, surface water chemistry, aluminium species, Germany, Bavaria, Fichtelgebirge; New Zealand, Westland; 00520. surface water quality, acid leachate, metal speciation, mine waste, anion exchange, Sweden; 11620.

**cation exchange capacity**

acid deposition, exchangeable cation, soil chemical property, soil acidification, volcanic oil, sulphur compound, Japan, Honshu, Ozorezan, Onishi; 09176. ammonia volatilisation, urine application, grassland soil, arable soil, 12812. cobaltihexammine adsorption method, humic acid, 09127. gley soil, alluvial soil, ferrallitic soil, agricultural soil, Vietnam; 04816. hectonite, alkylammonium, clay mineral, fluorescence, 06585. liming, irrigation, acid precipitation, microbial biomass, forest soil, nitrogen, Germany, Bayern, Aichach; 02542. montmorillonite, lanthanide, clay mineral, nuclear waste, 06591. organic carbon, aluminium, iron, lake water chemistry, acidification, humic lake, 11643. soil erosion, clay content, clay dispersion, 09122. tin/clay complex, acidity, hydration, 06593.

**cation exchange resin**

organic matter, cation, groundwater chemistry, soil water analysis, metal concentration, atomic absorption spectroscopy, sorptive concentration, 02734.

**cation export**

mass balance, Arctic watershed, USA, Alaska, Brooks Range, Kuparuk River watershed; Toolik Lake Watershed; 03868.

**cation flux**

anion flux, throughfall, deposition gradient, acid deposition, USA, Michigan; Minnesota; 12852.

**cation leaching**

anion leaching, aluminium, acid soil, ion composition, soil acidification, 07976. ionic strength, soil acidity, acid precipitation, 12744. leaching, calcium, magnesium, potassium, exchangeable cation, weathering, forest soil, 03668.

**cation loss**

atmospheric deposition, strontium isotope data, soil acidification, watershed export, weathering, USA, New York, Adirondack Mountains; 11482.

**cation release**

chemical weathering, weathering rate, PROFILE, mineralogy, geochemical model, Scandinavia; Europe, (Central); North America; 11444.

**cation solubilization**

rate limited process, weathering silicate minerals, organic acids, 00358.

**cationic denudation rate**

chemical weathering, silicate rocks, elevation, granitic gneiss, Switzerland, Alps, Ticino Canton; 03583.

**cationic surfactant**

organic contaminant, contaminant retardation, groundwater quality, box model aquifer, naphthalene plume, USA, Mississippi, Columbus Air Force Base; 03854.

**Catskill Formation**

lithofacies, sedimentology, Devonian, foreland basin, alluvial stratigraphy, USA, Pennsylvania; 02193.

**cattail**

waterlily, SPOT, seasonal change, yearly change, USA, South Carolina, Savannah River; 10985.

**cattle**

excreta, Eutrochrept, nitrogen, pasture soil, grazing, 09202.

**cattle trampling**

soil compaction, nitrogen addition, bulk density, pasture soil, 12793.

**causal mechanism**

global change, fluvial geomorphology, process geomorphology, methodology, 06615.

**causal variables**

principal estimator pattern, predictability, hydrological process, spatial process, 12834.

**causality**

climatology, drought, Africa, Sahel; 00744.

**causes**

control policy, pollution, global problem, atmospheric pollution, 00765.

**cave**

aquifer draining, Uranium series dating, karst hydrology, USA, South Dakota, Black Hills, Wind Cave; 08962. archaeological site, climate oscillation, Vistulian, flysch, sediment, Palaeolithic site, Poland, Carpathians, Oblazowa Cave; 02432. blind valley, groundwater pollution, environmental concern, highway construction, karst terrace, USA, Virginia, Lee County, Gibson Station, Young-Fugate Cave; 10117. burial, karst, road erosion sediment, humid tropics, Papua New Guinea; 12490. calcite, palaeoclimate, limestone cave, uranium series dating, speleothem, 05624. dolomitic limestone, karst massif, maze cave, flowstone, Zaire, Mount Hoyo; 03482. hyaena, grassland, palaeoclimate, Mammalia, Pleistocene, Greece, Macedonia, Kilkis, Agios Georgios Cave; 04595. hydrochemistry, river terrace, karst cavity, genesis, formation history, Russian Federation, Urals, Kungur Glacial Cave; 12488. isotopic analysis, equid teeth, Holocene, grassland habitat, rainfall index, South Africa, Cape Province, Wonderwerk Cave; 06720. karst, radionuclide, source, forestry, sediment transport, Australia, New South Wales, Jenolan Caves; 08822. karst, survey, doline, speleology, Madagascar, Majunga; Antsirabe; 02345. Last Glacial deposit, rodent, Pleistocene (Upper), Portugal, Tomar, Caldeirao Cave; 10163. magnesium, supersaturation, crystal habit, precipitation, calcite, carbonate, fluid chemistry, 00117. marble, phreatic enlargement, erosion cycle, glacial history, 02343. pollen, Holocene (late), environmental change, Libya, Tripolitania, Beni Ulid; 06717. Quaternary, karst, coastline dynamics, France, Albatre Coast, Bec-de-Caux; Atlantic, (North), English Channel, Dover Strait; 01182. rock shelter, sedimentary record, karstic infilling, climate cycle, France, Alps; Franche-Comte; France, Perigord; 06751. Rohtas limestone, flow path, stalactite, stalagmite, morphogenesis, cavernous topography, tropical environment, India, Guptadham Cave; 04580. shell, ornament, Buccinum undatum, Eoversilian, mollusc, Arenian, France, Grimaldi, Grotte des Enfants; 04668. sinkhole, joint, palaeokarst, Oligocene/Miocene, karst, void occlusion, speleothem, Cayman Islands, Grand Cayman; Cayman Brac; 04437. spring, Quaternary, calcite, flysch, Poland, Krynica, Tylicz; 09912. stalagmite, cave pearl, concrete, dam, carbon dioxide, calcium carbonate, pisolite, USA, California, Redding, Trinity Dam; 00051. subterranean lake, karst, surveying, Namibia, Otavibergen, Harasibfarn; 02344. trace element, clay mineral, France, Pyrenees, Tautavel, Caune de l'Arago; 07743. travertine, Dinaric Karst, karst, limestone, dissolution, spring, Europe, (West); 12486.

**cave deposit**

excess lead-210, new technique, speleothem, growth rate, age determination, 12518. radiocarbon dating, tropical lowland, biota, land snail, Jamaica, Coco Ree; 07835.

**cave dewatering**

speleothem deposition, uplift rate, dating, denudation chronology, landscape evolution, valley downcutting, UK, England, Derbyshire, Peak District; Yorkshire, Dales; Canada, Rocky Mountains; 07768.

**cave geology**

karst guidebook, Ordovician limestone, Silurian/Devonian, Helderberg Limestone, USA, Pennsylvania, Appalachians; 01181.

**cave passage**

Bhandar limestone, karst landform, karren, natural bridge, sinkhole, vadose zone, water table cave, India; 04579.

**cave pearl**

concrete, dam, carbon dioxide, calcium carbonate, pisolite, cave, stalagmite, USA, California, Redding, Trinity Dam; 00051.

**cave sediment**

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**cave system**

gypsum, salt, water, test tank, aquifer, structural control, simulation test, model, 04573. karst, data collection, geographical information station, Yugoslavia, Slovenia, Skocjan Cave, Timac(Timavo) Springs; 12419.

**cavernous topography**

tropical environment, cave, Rohtas limestone, flow path, stalactite, stalagmite, morphogenesis, India, Guptadham Cave; 04580.

**cavernous weathering**

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**cavitation**

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**cavity**

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- cavity development**  
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- cavity inflation**  
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- cavity volume change**  
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- CCD**  
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- CCD array**  
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- CCD camera**  
asteroid, mapping spectrometer, 03021.
- CD-ROM**  
06313. climate summary, USA; 10603. multimedia, data transfer, map library, 00843.
- Cebeci-Smith model**  
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- CEC**  
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- celestite**  
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- cellular convection**  
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- cement dust**  
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- cement plant**  
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- channel shape**  
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- channel stability**  
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- channel system**  
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- channel widening**  
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- chaos**  
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- chaos theory**  
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- chaotic behaviour**  
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- chaotic complex**  
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- chaotic facies**  
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- chaotic model**  
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- chaparral**  
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- Chapel Island Formation**  
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- Chara**  
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- Characeae**  
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- characteristic distribution**  
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- charcoal analysis**  
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- charcoal study**  
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- charge generation**  
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**charophyte**

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**charting chronology**

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**check dam**

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**chelating compound**

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**chelation**

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**chelation method**

pH effect, zinc, EDTA, 07978.

**chemical activity**

dissolution, pollutant deposition, monument, microclimate, Italy, Rome, Trajan Column; 06802.

**chemical alteration**

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**chemical amplifier**

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**chemical analysis**

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**chemical budget**

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**chemical change**

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**chemical communication**

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**chemical composition**

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**chemical contaminant**

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**chemical contamination**

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**chemical cycling**

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**chemical decomposition**

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**chemical denudation**

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**chemical differentiation**

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**chemical dynamical model**

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**chemical element balance**

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**chemical evolution**

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**chemical extraction**

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**chemical fate**

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**chemical flux**

fluid flow, seafloor, global estimate, 08989. sampling network, spatial variability, throughfall chemistry, tropical rainforest, Brazil, Amazonia; 00479. volatilisation, air-water interface, air-land interface, gas exchange, organic chemicals, PCBs, USA, Lake Michigan, Green Bay; 08147.

**chemical heterogeneity**

cloud chemistry, measurement, droplet, model, 01817. photochemistry, sulphate aerosol, stratosphere, ozone, volcanic eruption, cloud, 01827.

**chemical hydrology**

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**chemical interaction**

risk extrapolation, joint chemical action, water quality, toxicity, 06977.

**chemical leaching**

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**chemical mass balance**

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**chemical mechanism**

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**chemical oxidation technique**

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**chemical oxygen demand**

abattoir effluent, self purification, pollution, surface water, groundwater, Nigeria, Ibadan; 00517. groundwater contamination, infiltration, wastewater pond, nitrification, ammonium, Jordan, Khirbet Es-Samra; 03855. groundwater contamination, stormwater overflow tank, infiltration, combined sewer water, 06014. nitrogen, phosphorus, lake water quality, water quality management, China, Jiangsu Province, Tai Lake; 11647.

**chemical partitioning**

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**chemical phase analysis**

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**chemical pollutant**

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**chemical processing**

ozone depletion, chlorine, heterogeneous chemistry, polar stratospheric cloud, Antarctica; 12009.

**chemical profile**

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**chemical reaction**

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**chemical regime**

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**chemical sorption testing**

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**chemical source**

acid rain, wet deposition, nitrogen oxide, precipitation chemistry, vegetation burning, Congo, Mabombe Forest; South America, Amazonia; 00476.

**chemical speciation**

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**chemical species**

forested site, airfoil, canopy, deposition, particle, resuspension, 06228. vertical structure, dry deposition velocity, acid rain, regional acid deposition model, species exchange, 06237.

**chemical system**

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**chemical time series**

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**chemical tracer**

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**chemical tracer model**

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**chemical transformation**

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**chemical transport**

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**chemical vapour**

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**chemical variance**

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**chemical varnish**

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**chemical weathering**

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- chemical weathering rate**  
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- Chernobyl fallout**  
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**conglomerate zone**

gully, slope erosion, valley, Russian Federation, Voron River; 04569.

**conic**

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**conifer**

Pleistocene (late), Holocene, dendrochronology, floodplain sediment, radiocarbon, Australia, Tasmania, Stanley River; 07822.

**coniferous forest**

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**coniferous plantation**

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**conjugate gradient**

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**conjugate gradient method**

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**conjunctive use**

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**connate water**

hydrogeochemistry, brine, groundwater quality, groundwater origin, China, Sichuan Basin; 03858. spring, groundwater origin, deuterium, oxygen-18, USA, California, Coast Range Mountains; 11729.

**connectivity**

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**conservation evaluation**

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**conservation history**

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**conservation law**

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**conservation program**

SWC program, cultural practice, soil, water, India; 03610.

**conservation rate**

acid rain, sulphur deposition, nitrogen deposition, UK; 03728.

**conservation strategy**

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**conservation tillage**

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**consolidation coefficient**

piezocone test, cone penetration test, permeability, 06650.

**consolidation effect**

rill erosion, no-tillage, simulated rainfall, tilled system, soil strength, cropping system, USA, Georgia, Piedmont; 11430.

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**consolidation test**

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**constant flux dilution method**

finite mass dilution method, homogeneous dispersion, discharge, stream gauging, dilution method, 02612.

**constant flux infiltration**

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**constant head well**

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**constant-head permeameter**

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**construction industry**

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**construction technique**

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**consumptive use**

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**contact angle measurement**

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**contact freezing nuclei**

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**contact metamorphic rock**

TM, airborne geophysical data, granite related mineralization, Spain, Salamanca; 12086.

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**contaminant dispersal**

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**contaminant disposal**

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**contaminant exchange**

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**contaminant extraction**

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**contaminant fate**

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**contaminant formation**

estuary, surface water quality, trihalomethane compounds, potable water, USA, California, Sacramento River Delta; San Joaquin River Delta; 03799. surface water quality, trihalomethane compounds, estuary, bromide, bromine, USA, California, Sacramento River Delta; San Joaquin Delta; 03800.

**contaminant identification**

fly ash, leachate, groundwater quality, boron isotope, 08195.

**contaminant leakage**

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**contaminant modelling**

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**contaminant partitioning**

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**contaminant plume**

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**contaminant retardation**

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**contaminant transport**

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- contaminated site**  
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- contaminated site assessment**  
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- contaminated soil**  
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- contamination level**  
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- contamination source**  
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**Cretaceous (Upper)**

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- ecograms**  
phytosociological analysis, vegetation information system, Scots pine, Switzerland; 03184.
- ecohydrological modelling**  
groundwater model, finite element groundwater program, seepage, Netherlands; 12154.
- ecohydrology**  
evapotranspiration, soil moisture, water resources, precipitation, runoff, water demand, climate change, Poland, Poznan; 00467.
- ecological anomalies**  
landscape map, disease, recreation, ecological landscape types, Russian Federation; 00903.
- ecological change**  
Landsat TM, marine habitat, Bahrain; 08690.
- ecological chemistry**  
mercury, pulp mill effluent, wastewater treatment, 06961.
- ecological classification**  
airborne digital data, classification accuracy, Canada, Ontario, Presqu'île Provincial Park; 03174.
- ecological damage**  
water quality management, hydrological balance, pathogenic microbe, toxic chemical, eutrophication, Black Sea; Azov Sea; 00657.
- ecological disturbance**  
land use, river regulation, valley reclamation, 08222.
- ecological impact**  
groundwater extraction, water table decline, wetlands, Europe, Iberian Peninsula, Douro River Basin; 09303. radioactive fallout, organic micro-pollutant, trace metals, deposition, lake, 04072. sewage, surface water quality, organic pollution, India, Kerala, Quilon Canal; Ashramam Lake; India, Kerala, Ashtamudi Estuary; 02662. water transfer, river basin integrity, environmental conservation, water quality, river basin management, 09438.
- ecological inventory**  
vegetation, river regulation, river design, stabilisation, landscape management, Germany, Bavaria; 06102.
- ecological landscape**  
tundra, Boreal Foerst, wetlands, biophysiological division, polar timberline, Canada, Ontario, James Bay-Lowlands; 12652.
- ecological landscape types**  
ecological anomalies, landscape map, disease, recreation, Russian Federation; 00903.
- ecological management**  
management strategy, eutrophication, water quality management, Hungary, Balaton Lake; Norway, Lillehammer Lake; 10585.
- ecological model**  
groundwater modelling, GIS, water abstraction, Netherlands, Zandvoort; 12155. wetland ecology, sediment chemistry, water quality, phosphorus retention, wetland vegetation, North America, Great Lakes, Lake Erie; 10456.
- ecological monitoring**  
aircraft scanner, water pollution, thermal imagery, Russian Federation, Moscow; 07537. EOS, water cycle, biogeochemical cycle, bioproductivity, energy cycle, 07350. land use, GIS, UK; 05340.
- ecological planning**  
GIS, agriculture, protection policy, Switzerland; 13412. water management, flood protection, water quality management, environmental protection, Germany, Rhine River; 07113.
- ecological recovery**  
reed bed, biosphere reserve, environmental management, delta, Romania, Danube Delta; 07771.
- ecological risk**  
anthropogenic impact, catastrophic process, relief formation, 10127.
- ecological stabilisation**  
remote sensing, GIS, cultural landscape, Czech Republic, Moravia, Zdsarske Vrchy; 07552.
- ecological stability**  
flood management, finite element model, risk analysis, flood risk, flood protection, Germany, Rastatter Rheinniederung; Rhine River; 08252. river water quality, probability theory, river discharge, river reliability, 12938.
- ecological status**  
surface water quality, hydrobiological monitoring, database, water quality regulations, USSR; 00523.
- ecological water-quality coefficient**  
river water quality, BOD, permanganate oxidation demand, dissolved oxygen, ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, phosphate, suspended matter, 02694.
- ecology**  
agriculture, landscaping, biotope, 13396. atmospheric water, water management, water balance, evaporation, rainfall chemistry, 06904. climate change, model, 02035. coastal area, shelf, geography, Black Sea; 01137. conservation, engineering, estuary, salt marsh, 12241. environmental conditions, surface water quality, sea level decline, Aral Sea; 02765. environmental management, biomanipulation, chemical communication, fish behaviour, water quality management, 05933. environmental management, wetlands, hydrology, Guatemala, Pasion River; Russian Federation, Lake Baikal; UK, England, Norfolk, Halvergate Marshes; 03786. geocology, geobiocoenoses, geomorphology, 06614. geomorphology, coastal dynamics, environment, 01272. GIS, landscape, spatial heterogeneity, 13390. instream flow incremental method, instream flow, computer model, lowland river, flow requirement, UK, England, Rutland Water, Gwash River; 00651. landscape stability, land use, GIS, 03189. landscape, GIS, 13403. management, conservation, dune, coastal protection, geomorphology, Europe; 00020. mapping, national mapping, USSR; Russian Federation; 13397. regional analysis, relief, fluvial system, 10065. remote sensing, 02034. reservoir construction, water management, reservoir siting, environmental impact assessment, Czechoslovakia, Turcek; 00507. rift valley, seiche, circulation pattern, distribution, diatom, sediment, Africa, (Central), Malawi Lake; 03514. satellite imagery, bird habitat, 13395. space research, 13398. urban geosystem, geosystem, Armenia, Yerevan Basin; 08698.
- ecomomic structure**  
commercial applications, value added service, technical structure, Europe; 10839.
- economic analysis**  
cost benefit evaluation, social benefit, 10898.
- economic benefit**  
water allocation, water resource management, recreation value, wetlands, USA, California, San Joaquin Valley; 06081.
- economic cost**  
greenhouse gas, policy, global warming, carbon tax, 05131.
- economic evaluation**  
pollution control, water pollution, herbicide, groundwater contamination, ecotoxicology, atrazine, Italy; 07057.



**economic impact**

aeolian process, sand encroachment, dust storm, saltation, barchan, environmental impact, Kuwait; 08972. sea level rise, impact assessment, Bangladesh; Egypt; 08973.

**economic model**

irrigation water management, crop rotation, irrigation water quality, salinity, optimisation model, land drainage, drainage water reuse, 08238.

**economic parameter**

water balance, water resource management, simulation model, water management, expectation matrix, Hungary, Balaton Lake; 09447.

**economic planning**

GIS, woodland management, 05345.

**economic recession**

education, GPS, surveying profession, 10844. surveyor, Australia, Sydney; 10838.

**economic valuation**

anthropogenic impact, water resources, water quality, degradation, freshwater, 06068.

**economics**

GIS, technology implementation, Russian Federation; 13335. quality, standard, geographic information, 13342. water demand, water supply, water resource management, regulation, 11767.

**ecostratigraphy**

benthic foraminifera, estuarine depositional environment, transgression, salt marsh, Holocene, Spain, Cantabria, Bay of Biscay; 06710.

**ecosystem**

acidification research, Dutch Priority Programme, policy, ammonia, Netherlands; 05203. bacteria, biodegradation, organic matter, pollutant, zinc, methanogenesis, nutrient cycling, Netherlands, Rhine River; 04407. biotope, heavy metals, contamination, Cuba, Cardenas Bay; 00071. canopy balance model, atmospheric deposition, 10663. contamination, runoff, geochemistry, offshore bar, Mediterranean climate, lagoon, France, Herault, Vendres Lagoon; 03264. desertification, arid zone, environmental degradation, Africa, Sahel; China; Russian Federation, Aral Sea; 08649. environmental observatory, soil science, heavy metals, Switzerland, Mont-Blanc; 05592. hydrochemistry, hydroelectric power station, Black Sea; 01497. metabolism, carbon dioxide, boreal forest, seasonal cycle, photosynthesis, carbon cycle, 01809. natural reserve, irrigation, Costa Rica, Palo Verde; 07510. oceanography, biology, Southern Ocean; 13432. risk assessment, Chemical Time Bomb, cold climate, Scandinavia; 08803. river water quality, organic matter, algal population, oxygen level, reservoir release, France, Seine River; 11634. seawater, POM, carbohydrate, protein, chlorophyll, phytoplankton, seasonal change, Italy, Liguria, Chiavari; 04484. temperature, climate change, tide, sea level rise, flow velocity, water depth, seabed, 00040. vegetation deterioration, soil erosion, socioecological impact, Tanzania; 09110.

**ecosystem conservation**

freshwater habitat, water resource management, wetlands, anthropogenic impact, UK, England, East Anglia, Norfolk Broads; USA, Florida, Everglades; Sudan, Sudd; 06069.

**ecosystem deterioration**

groundwater development, wetland ecosystem, water table decline, phreatic aquifer, Spain, Donana National Park; 09304.

**ecosystem disruption**

flooding, river water quality, habitat degradation, river regulation, sediment load, Asia; 09346.

**ecosystem dynamics**

raised bog, peat formation, theoretical model, mire induction, Finland; 10186.

**ecosystem impact**

climate change, wetland desiccation, water management, water table decline, Netherlands, Rhine River; 00663. hydrological change, climate change, prediction, vegetation, water management, 00662.

**ecosystem management**

flood storage, integrated approach, storage provision, flood management, UK, England, Thames River; 08255. freshwater lake, estuary, lake formation, water management, Netherlands, Volkerak/Zoom Lake; 09448.

**ecosystem model**

climate change, enhancement effect, forest, carbon dioxide, 08329. fluid dynamics, hydroclimate, freshwater ecology, river, lake, water movement, anthropogenic impact, 02606. wind erosion, vegetation deterioration, hazard, GIS, desertification, Kenya; 03609.

**ecosystem protection**

pollutant toxicity, surface water quality, pulp mill effluent, dioxin, furan, Canada; 01491.

**ecosystem respiration**

organic carbon processing, river water quality, allochthonous input, oxygen dynamics, tidal influence, USA, New York, Hudson River; 02683.

**ecosystem response**

biota, aquatic environment, pollution, food chain, algae, 05924.

**ecosystem restoration**

eutrophication, lake restoration, water management, phosphorus load, Netherlands; 03828.

**ecosystem stability**

streamflow, POM, prairie stream, 03817. water resources, tidal system, wave height, maintenance cost, sea level rise, impact assessment, Netherlands; 08971.

**ecosystem study**

lake, palaeolimnology, limnology, biological limnology, applied limnology, Finland; 05919.

**ecosystem theory**

soil classification, soil mapping, urban soil, Germany, North Rhine-Westphalia, Bochum; 02567.

**ecotone**

agricultural pollutant, nutrient, floodplain, filter effect, Czech Republic, Bohemia, Luznice River; 04980. carbon dioxide, flux, field, forest, USA, Georgia, Madison County; 01813. dissolved organic matter, humic substance, heavy metals, nitrate, phosphate, 12927. energy flow, evapotranspiration, groundwater flux, matter flux, 12926. lake water quality, riparian zone, soil water quality, phosphorus, Sweden, Scania, Bysjon Lake; 12925.

phosphorus, eutrophication, agricultural practice, land use, lake water quality, palaeolimnology, Denmark, Hejrede So Lake; 12952. runoff water quality, riparian zone, streamwater quality, nitrate leaching, nutrient retention, UK, England, Cotswolds; 12922.

**ecotoxicology**

atrazine, economic evaluation, pollution control, water pollution, herbicide, groundwater contamination, Italy; 07057.

**Eddington's approximation**

turbidity coefficient, ozone, albedo, pollution, spectral characteristics, solar radiation transfer, 05013.

**eddy correlation**

Bowen ratio, energy balance, forest, evapotranspiration, 02598. IR gas analyser, instrument comparison, 06103. lysimeter, millet, soil evaporation, transpiration, evapotranspiration, porometer, Niger; 11563. microclimate, horizontal variability, mesoscale model, evaporation rate, lake surface, Israel, Kinneret Lake; 12856. nitrogen dioxide, deposition, dry deposition, heathland, Netherlands; 04139. surface, flux measurement system, Bowen ratio, energy balance, 06165. suspended sediment flux, turbulence spectra, sand bed river, Canada, British Columbia, Fraser River; 11596. thermal stratification, evaporation rate, wind speed, lake surface, energy budget, Israel, Kinneret Lake; 12855. turbulent flux, bulk aerodynamic method, ocean air turbulent flux, cold air outbreak, comparative study, 10667.

**eddy correlation instrument**

millet, Penman-Monteith model, turbulent transport, k-theory, evaporation, sparse canopy, Lagrangian turbulent diffusion, Africa, (West); 02595.

**eddy correlation measurement**

momentum, water vapour, carbon dioxide exchange, prairie, 06242.

**eddy covariance flux**

dry deposition, grass, soil, deposition, Penman-Monteith model, ozone deposition, 08494.

**eddy decay**

eddy separation, anticyclonic eddy, Geosat altimeter, USA, Alaska, Aleutian Islands; 07529.

**eddy diffusion**

dispersion coefficient, solute transport, longitudinal dispersion, estuary, UK, Wales, Conwy Estuary; 03789.

**eddy diffusion coefficient**

mesosphere, thermosphere, turbulence parameter, 02886.

**eddy energetics**

hydrological process, transient eddy, doubled carbon dioxide, midlatitude, 09639.

**eddy field recovery**

oceanic eddy, altimeter sampling pattern, sea surface, height anomaly, Gulf Stream, 07525.

**eddy flux**

hurricane formation, radial circulation, vortex, Atlantic; 01759.

**eddy forcing**

mean circulation field, troposphere, 13165.

**eddy induced fluctuation**

zonal mean wind, Eulerian diagnostics, Eliassen-Palm flux, 01726.

**eddy momentum flux**

GCM, quasi biennial oscillation, stratosphere, Eliassen-Palm flux, 09558. meridional resolution, general circulation model, sensitivity, 10718.

**eddy resolution**

ocean model, oscillation, tropical, Pacific; 00706.

**eddy separation**

anticyclonic eddy, Geosat altimeter, eddy decay, USA, Alaska, Aleutian Islands; 07529.

**eddy simulation**

turbulent transport, macroscale chaos, microscale noise, Kalman filter method, contaminant transport, 12913.

**eddy viscosity**

sodar data, one dimensional model, wind profile, stability, 07180. tributary confluence, turbulence, open channel flow, closed channel flow, channel expansion, 09280.

**edge affected diffusion**

blurring, boundary detection, image processing, 09757.

**edge detection**

compressed image, 10862. computer vision, parallel processing, image processing, 01920.

**edge enhancement**

edge linking algorithm, image segmentation, 05275. SPOT, Fourier transform, 04181.

**edge flow**

lysimeter, soil sampling, 10270.

**edge linking algorithm**

image segmentation, edge enhancement, 05275.

**edge matching**

least squares analysis, corner, 06292.

**edge networks**

network node points, digital processing, 07414.

**edge preservation**

image mapping, image processing, smoothing filter, 10881. multiresolution imagery, 06291.

**Edina silt loam**

aggregate size distribution, cultivation, soil management, soil physical property, soil chemical property, Clarion loam, USA, Iowa; 03670.

**Eddington's approximation**

radiative transfer, microwave frequency, accuracy, 09481.

**EDM**

baseline, calibration, metrology, 03066. instrument calibration, calibration baseline, Australian National Measurement Act, Australia; 03067.

**EDM height traversing**

geodesy, vertical circle compensator, levelling accuracy, geophysical monitoring, USA, California; 03061.

**EDSS**

GIS, architecture, system design, 03096.



**EDTA**

chelation method, pH effect, zinc, 07978. copper, dissolved organic matter, metal, seawater, geochemical cycle, ligand, demetalisation, 00140. goethite, citrate, surface complexation, extractant, iron oxide, 10267.

**education**

black shale, biomarker, organic geochemistry, organic matter, 09983. cartography, student exchange, Europe; 09851. cathodoluminescence microscopy, BSE microscopy, carbonate, apparatus, petrology, 10044. computer system, meteorology, electronic publishing, 03893. data integration, partnership, government, USA, North Carolina, Concord; 11026. engineering, 01869. environmental engineering, erosion control, stormwater management, 11768. GIS, 10906. GIS, government, 00955. GIS, research, Germany; 06301. GIS, training, 03240. GIS, training, 10903. GISET Project, GIS, online videotex GIS, 13345. GPS, surveying profession, economic recession, 10844. industry, GIS, 10905. international workshop, workshop, remote sensing, Asia; 03017. map compilation, geomorphological map, Europe, (East); 00242. map work, Hong Kong; 00868. meteorological data, weather laboratory, computerisation, 02790. quality assurance, European Community, geodetic survey, Europe; 03050. remote sensing, 04167. research, GIS, Europe; 06300. research, USA; 08574. runoff control, flood control, stormwater management, geomorphology, erosion control, 09267. school, cartography, 08606. spatial diffusion, 04170. surveying, planning, Hungary; 08527. teaching, GIS, 03239. training, Australia; 08572. training, GIS, 08573. training, surveyor, GIS degree course, 01939. training, teaching, GIS, 10904.

**educational cartography**

cartographic publishing, atlas design, Germany, Gotha; 09773.

**EEC**

environmental database, CORINE, data standard, Europe; 05351. water policy, water management, potable water supply, law, Germany; Europe; 08233.

**Eem Formation**

Holocene sediment, bathymetry, channel deposit, Geological Survey, Quaternary geology, Kreftenheye Formation, North Sea; Belgium, Ostend; 04599.

**Eemian**

deglaciation, Weichselian, stratigraphy, palaeoenvironment, Oxygen Isotope Stage 5, Svalbard, Bellsund; 07873. Holsteinian, sea level, peat bog, pollen analysis, interglacial, France, Vendee, Bretignolles, La Pree; 10194. interglacial, palaeogeography, stratigraphy, Estonia; Latvia; Lithuania; Russian Federation; 01263. Oxygen Isotope Substage 5e, Phantomodden interstadial, Kapp Ekholm interstadial, Quaternary glaciation, orbital variation, Last Interglacial-Glacial, till bed, marine sediment, Mytilus edulis, Svalbard, Spitsbergen; 05638. palaeovalley, incision, tidal scour, depression, Pliocene/Pleistocene, North Sea, Southern Bight, Murray Pit; 11127. paleosol, soil micromorphology, loess, Poland, Lopatki; 09225. pollen analysis, Pleistocene, Port Durnford Formation, peat, marine transgression, South Africa, Natal, Port Durnford; 09074. Quaternary, deglaciation, shoreline displacement, Weichselian interstadial deposit, Finland, Lapland, Rovaniemi; 02409. Saale, organogenic deposit, forest soil, TL dating, Odranian glaciation, pollen, Brorup Interstadial, Poland, Leczna; 09054. temperature profile, sea surface temperature, Milankovitch, Weichselian (early), Europe, (Northwest); Atlantic, (North); 01247. Weichselian (early), Foraminifera, marine deposit, stratigraphy, Denmark; 01279. Weichselian, marine deposit, glaciation, depositional history, Greenland, East Greenland, Jameson Land, Aucellaelv; Langelandselv; 01269.

**Eemian deposit**

climate reconstruction, stratigraphy, Last Interglacial, Sweden, Lapland; 01262.

**Eemian Interglacial**

Brorup, Jamland Interstadial, Perapohjola, Odderade, Tarendo, Holsteinian Interglacial, glacial stratigraphy, radiocarbon dating, interglacial sediment, Sweden; 02407. geological setting, pollen analysis, interglacial, organic sediment, Poland, Podlasie, Mokraný Nowe; 12609. marine stratigraphy, record completeness, radiocarbon dating, AMS, Weichselian (late), Svalbard, Spitsbergen; 11366. Odra Glaciation, Drenthe stade, correlation, Saale Glaciation, Middle-Polish Glaciation, Holstein Interglacial, Mehlbek (Fuhne) cold phase, Wacken (Domnitz) Interglacial, Warthe glacial stade, Germany; Poland; 02411. pollen diagram, lacustrine deposit, Ferdynandow Interglacial, Poland, Torun Valley, Popioly; 07888. Vistula glaciation, Krastudy Interglacial, Torun glaciation, stratigraphy, Pleistocene, mapping, borehole, Poland, Elblag Elevation; Dolne Powisle; 02412. Vistulian Interpleniglacial, lacustrine sediment, Pleistocene (late), flora, Poland, Lomzyca Basin; 09049. Vistulian, Holocene, vegetation, peat bog, Poland, Bialystok, Machnecz Peat-Bog; 12610. Vistulian, lacustrine sediment, pollen diagram, Poland, Lomzyca Basin; 09048.

**Eemian sediment**

beetle, vegetation, fell-field, snowpatch vegetation, interglacial, terrestrial biota, Greenland, East Greenland, Jameson Land; 00329.

**Eemian Stage interglacial**

U-Th dating, Midlandian, palynology, interstadial, sea level, Ireland, Co Kerry, Kilfenora; 12515.

**effective droplet radius**

cloud liquid water, droplet concentration, cloud droplet, microphysics data, 06191.

**effective elastic thickness**

isostatic rebound, intraplate highland, denudation, lithosphere, Australia, Southeast Highlands, Lachlan River Valley; 01159.

**effective hydraulic conductivity**

nonuniform medium, groundwater flow, Darcy's law, hydraulic head, steady state flow, 10507.

**effective medium theory**

lattice mapping, anisotropy, permeability, fracture flow, groundwater flow, 08175.

**effective precipitation**

ARMA model, streamflow, runoff, monthly streamflow, stochastic model, Italy; 12881.

**effective precipitation**

river water quality, catchment area, bacteria density, faecal coliform, Japan, Ehime Prefecture, Ishite River; 05961.

**effective rainfall**

streamflow, runoff, daily streamflow, stochastic model, 12884. time series model, mine drainage, mineral extraction, groundwater discharge, groundwater resource, France, Lorraine; 07033.

**effective reflectivity**

rainfall, convective rainfall, radar beamwidth, 03133.

**effective stress**

plastic clay, expansive clay, bentonite, swelling pressure, 11280. water-mineral interaction, hygromechanics, clay, mixture theory, hydraulic conductivity, 11281. water pressure, saturated clay, heating-cooling cycle, plastic strain, pore pressure, 11282.

**effective stress behaviour**

loading, resilient strain model, saturation, pore pressure, 02335.

**efflorescence**

sodium, sulphate, magnesium sulphate, evaporite, Spain, Navarra, Peralta; 00995.

**efflorescent salt crust**

playa brine, evaporite mineral, USA, California, Death Valley; 12088.

**effluent**

chlorinated organic matter, bleaching, pulp mill, Sweden; Baltic Sea; Finland; 12325. coal-fired power plant, ponded effluent, groundwater chemistry, 06002. denitrification, wastewater, meat-processing effluent, nitrous oxide emission, New Zealand; 08039. surfactant marker, sewage, deep sea sediment, contaminant, USA, California, Santa Monica Basin; 01019. wastewater injection, freshwater-saltwater interface, groundwater quality, self purification, France, Vendee, Saint Jean de Monts; Saint Hilaire de Riez; 08212. wastewater, gas chromatography, mass spectrometry, organic pollutant, influent, Sweden, Goteborg; 06974.

**effluent characterisation**

risk assessment, industrial wastewater, marine discharge, chemical pollutant, impact assessment, pollution control, 06978.

**effluent control**

pulp mill, river water quality, water quality criteria, heavy metals, India, Karnataka, Kali River; 10482.

**effluent discharge**

radioactivity, contamination, sea urchin, tracer, hafnium, France, Toulon; 06502.

**effluent disposal**

potable water contamination, arsenite, arsenate, industrial pollution, groundwater contamination, arsenic, India, Calcutta, Behala; 08206.

**effluent flow**

drainage network, network development, sapping, 01449.

**effluent outfall**

water quality management, estuary, coastal water, wind stress, shear dispersion, diffusion coefficient, quality control, 07094.

**effluent treatment**

wastewater treatment, irrigation, storage reservoir, 06086.

**Egesen complex**

radioglacial, glacial stage correlation, glacial fluctuation, last glaciation, glacial stage, France, Haute-Savoie, Arve Valley; 11362.

**egmont sourced tephra**

palaeoclimatic correspondence, soil stratigraphic record, tephra, radiocarbon dated peat, pollen spectra, New Zealand, North Island, Taranaki, Egmont Volcano; 02373.

**eigen function expansion**

kinematic wave approximation, overland flow, flow equation, hydrograph, 03735.

**ejecta**

asteroid imaging, planetary satellite, geological history, crater, Mars; 06638. eruption, fall deposit, sedimentation, tephra, volcanic column, 04379. explosive behaviour, IR photography, volcano, Italy, Stromboli Volcano; 06351.

**ejecta deposit**

Magellan, impact crater, SAR, thermal emissivity data, parabolic feature, radar bright floor, Venus; 05606.

**ejecta emplacement**

crater formation, Magellan, impact crater formation, surface dating, atmospheric effect, Venus; 05605.

**ejecta superposition**

surface process, stratigraphy, volcanic flow unit, impact crater, Magellan, Venus; 03448.

**Ekman dumping**

sea level, altimetry, atmospheric load, ocean, Geosat, 09539.

**Ekman pumping**

southwest monsoon, planktonic foraminifera, hydrographic data, satellite remote sensing, seafloor sediment, Indian Ocean; Arabian Sea; 10152.

**Ekman's theory**

Estoque's model, topography, boundary layer, 02839.

**El Nino**

typhoon, general circulation model, sea surface temperature, tropical storm formation, 00720.

**El Nino**

coral reef, geochemical tracer, Pavona clavus, time series, upwelling, Galapagos Islands, San Cristobal Island; 09001. dendrochronology, tree ring, climate (1640-1982), drought index, Southern Oscillation Index, USA, Iowa; 04049. empirical orthogonal function, sea surface temperature, summer, precipitation, China; Pacific, (Northwest); 06141. flood, drought, monsoon, rainfall, teleconnection, China; India; 08321. glacier response, atmospheric circulation, sea level rise, New Zealand; 03579. Holocene, atmospheric circulation, Brazil; 01218. Holocene, fire, charcoal, radiocarbon dating, rain forest, paramo, drought, Costa Rica; 05663. irradiance, interannual variability, solar irradiance, South America, Amazon Basin; 06139. Kelvin wave, Rossby wave, Geosat, Pacific; 06404. La Nina, air-sea heat exchange, ocean-atmosphere coupling, 09540. La Nina, precipitation anomaly, ocean GCM, 09536. La Nina, Southern Oscillation Index, dendrochronology, drought reconstruction, superposed epoch analysis, climate response, USA; Mexico; 08417. La Nina, Southern Oscillation, ocean-atmosphere interaction, tropics, theory, model, Pacific; 02861. nonlinear mapping, remote response, teleconnection pattern, Northern Hemisphere; 06178. satellite data, carbon dioxide, vegetation discrimina-



- tion, 01702. sea surface temperature, climate model, simulation, atmospheric response, 08353. Southern Oscillation Index, climate (622-1900), flood data, Egypt, Nile River; 08418. surface seawater, upwelling, carbon dioxide flux, nutrient level, Pacific; 08364. tropical ocean, coupled ocean-atmosphere GCM, low frequency variability, outgoing longwave radiation, Pacific; Indian Ocean; 11834. westerly wind, navigation, Polnesia, Easter Island; 10691.
- El Nino conditions**  
Southern Hemisphere, Southern Oscillation Index, blocking dipole, seasonal climate, climate summary, autumn (1991), 07157.
- El Nino/Southern Oscillation**  
carbon-14, tree ring, spatial variation, palaeoclimate, 10774. chaos theory, nonlinear dynamics, 08366. chemical tracer, trade wind, coral reef, manganese, Pacific, (West), Tarawa Atoll; 01838. circulation anomaly (200 mb), tropical circulation anomaly, extratropical circulation anomaly, 11807. circulation pattern, winter, climate change, 08317. cloud cover, historical record, climate, Australia; 07288. coarse grid, Kelvin wave, coupled model, 03999. coupled ocean-atmosphere GCM, structure, predictability, 11836. cross-equatorial flow, interannual variability, cold surge, intraseasonal oscillation, tropical cyclone, summer monsoon, Australia; 01679. dendrochronology, 08421. dendrochronology, spectral property, tree ring data, USA; 08423. documentary record, tree ring, instrument record, proxy record, USA, New Mexico; Mexico; Peru, Quelccaya Ice Cap; 10137. drought, dendrochronology, winter, precipitation, USA, Mexico; 08424. fishery catch, climate change, marine sediment, 09627. flood magnitude, design flood, monsoon, cyclone, climate variability, flood frequency, USA, Arizona, Pima County, Santa Cruz River; 06933. forecast, drought, land management, Australia, Queensland; 02908. general circulation model, coupled ocean-atmosphere GCM, interannual variability, tropics, 06182. glacial conditions, stable isotope data, palynological record, lapse rate, sea level, Intertropical Convergence Zone, Indonesia, Molucca Sea; 10154. marine, lacustrine sediment, varve, long term change, Africa, (East); USA, California, Santa Barbara Basin; 10138. monsoon wind, coastal sea, sea surface temperature, South China Sea; 01662. monsoon, drought, flood, statistical analysis, food supply, impact assessment, India; Asia; Australia; North America; 02828. monsoon, ocean-atmosphere model, model predictions, 10693. monsoon, tropical cyclone, cyclone, Australia; Pacific, (Central); 02859. nilometer data, Medieval Warm period, 08420. ocean circulation, joint mode, coupled atmosphere-ocean system, 13100. ocean, TOGA, coupled ocean-atmosphere response, 03971. organic matter, primary productivity, biomarker, diagenesis, bacteria, upwelling, Peru; Namibia; 05532. ozone, interannual fluctuation, Dobson records, total ozone, quasi biennial oscillation, 01823. palaeoclimate study, Australasian Region; 08419. palaeoclimate study, surrogate record, Little Ice Age, prehistorical overview, Pacific; 10136. palaeoclimate, 09626. palaeoclimate, coupled climate model, 08425. palaeoclimatic data, rainfall anomaly, reversal, longshore transport, beach ridge record, Brazil, Rio Doce Coastal Plain; 12505. precipitation variability, drought, palaeoenvironmental record, climate variability, South America; Australia; New Zealand; 10135. prediction, canonical correlation analysis, sea surface temperature, 06195. quasi biennial oscillation, stratospheric wind, 01725. sea surface temperature, sea level pressure index, rainfall, tropics, contingency table, spectral analysis, Egypt, Nile River; 08350. streamflow, USA; 08352. sulphate, aerosol distribution, cloud variation, 09735. teleconnection, 08351. trace metal chemistry, aragonite, precipitation, trade wind, oxygen isotope data, climate variability, coral, Pacific; 10158. tropical analysis, Pacific, (West); 07160. tropical system, air-sea coupling, Kelvin mode, Rossby mode, 02857. wildfire teleconnection, USA, (Southwest); 09501. wind variability, interannual variability, South Africa; 09504.
- El Paso Group**  
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- eutrophic reservoir**  
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- eutrophic water**  
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- eutrophication**  
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09892. catchment history, deforestation, Holocene, diatom, pollen, Sweden, Skane; 12232. chlorine, pulp mill, Baltic Sea; 07672. chlorophyll, estuary, phosphorus, nitrogen, oxygen, denitrification, loading rate, nutrient, sediment-water exchange, Denmark, Roskilde Fjord; 03279. coastal engineering, breakwater, bottom sediment, coastal erosion, water quality, Italy, Emilia-Romagna; 07669. coastal lake, palaeolimnology, phosphorus load, buffer zone, lake water quality, lake restoration, UK, England, Slapton Ley; Loe Pool; 05979. diatom, anthropogenic impact, lake sediment, karst, pollution, Croatia, Plitvice National Park; 08816. ecological damage, water quality management, hydrological balance, pathogenic microbe, toxic chemical, Black Sea; Azov Sea; 00657. emission reduction, phosphorus emission, lake restoration, lake water quality, Europe; 11642. environmental change, hydrologic change, anthropogenic impact, groundwater resource, wetlands, flood frequency, salinisation, nitrate pollution, Australia, Victoria, Gippsland Basin; 02774. fatty acid, bacteria, sediment, biomarker, pollutant, Japan, Ise Bay; 08821. fen ecosystem, water management, fen restoration, cost benefit analysis, Netherlands, Vecht River; 11600. fish kill, surface water quality, groundwater quality, coastal water quality, remediation, acidification, Norway; 03792. flood, sea barrier, water circulation, bottom sediment, pollutant, storm surge, Baltic Sea, Gulf of Finland, Neva Inlet; St Petersburg; 00078. global change, fishing, oceanography, pollution, geochemistry, Netherlands, Wadden Sea; North Sea; 00170. heavy metals, chlorinated hydrocarbons, river water quality, contamination level, oxygen balance, organic contaminant, Germany, Elbe River; 12929. lagoon, sewage discharge, flushing time, nutrient concentration, Mexico, Quintana Roo, Cancun, Nichput Lagoons; 06964. lake restoration, biomanipulation, Secchi disc transparency, lake water quality, turbidity, Netherlands, Klein Vogelenzang Lake; 11656. lake restoration, lake ecology, lake water quality, Netherlands, Loosdrecht Lake; 11653. lake restoration, load restoration, phosphorus load, USA, New York, Onondaga Lake; 03820. lake restoration, water management, groundwater flow, Netherlands, Utrecht, Loosdrecht Lakes; 03822. lake restoration, water management, phosphorus load, ecosystem restoration, Netherlands; 03828. lake water quality, lake restoration, phosphorus balance, Netherlands, Friesland; 11659. lake water quality, turbidity, algal growth, water flea, water quality management, phosphate load, Netherlands, Volkerak/Zoom Lake; 09350. lake water, groundwater inflow, nutrient inflow, catchment export, Poland, Leczynsko-Wlodawskie, Piaseczno Lake; 01502. lake, fish farming, phosphorus, bottom sediment, Poland, Letowo Lakes; Szczymno Lake; 02189. land use policy, buffer zone, water quality management, lake restoration, lake water quality, UK, England, Devon, Slapton Ley; 12954. land use, water quality, nitrogen, phosphorus, UK, Devon, Slapton Ley; 11085. meteorological data, Adriatic Sea; 06177. mineralization, nitrogen cycle, nutrient, tidal inlet, Denmark, Jylland, Gradyb; 09933. mountain lake, lake water chemistry, bedrock, chemical variance, biogeochemistry, alkalinity, acidification, Spain, Pyrenees; 07006. nutrient flux, lake water quality, hydrological budget, Turkey, Izmir Lake; 07005. nutrient loading, lake water quality, phosphorus, pulp mill effluent, BOD, Finland, Pajanne Lake; 05978. nutrient loading, lake water quality, water balance, lake restoration, Netherlands, Ankeven Lake; Kortenhoef Lake; 11657. nutrient retention, settling velocity, phosphorus, aerated lake, lake water quality, Germany, Berlin; 05972. nutrient transport, diffusion, lake water quality, phosphorus, phytoplankton, 12947. nutrient, benthic flux, phytoplankton, organic matter, recycling, Adriatic Sea; Italy, Po River Delta; 07668. organism, laminated sediment, bioturbation, anoxia, USA, Chesapeake Bay; New York, Long Island Sound; Baltic Sea; 07704. particulate matter, plankton, suspended matter, mercury, turbidity, resuspension, pollution, Adriatic Sea; 00077. phosphate, calcium, iron, lagoon, seasonal variation, France, Hérault, Montpellier; 12230. phosphate, iron, dredging, lake, restoration, Netherlands, Groot Vogelenzang Lake; 11229. phosphorus load, water quality management, environmental policy, Netherlands, Utrecht, Loosdrecht Lakes; 03824. phosphorus/carbon ratio, lake water quality, seston, cyanobacteria, algae, Netherlands, Loosdrecht Lake; 11655. phosphorus load, lake restoration, water quality, lake ecosystem, Netherlands, Utrecht, Loosdrecht Lakes; 03825. phosphorus loading, algae, phytoplankton, surface water chemistry, Austria, Obere Lobau; 11612. phosphorus sorption, Histosol, quantity-intensity relationship, USA, Florida, Everglades; 06867. phosphorus, adsorption, dispersion, grain coating, Netherlands; 11153. phosphorus, alum, anoxia, 11081. phosphorus, bioturbation, lake, sediment record, diatom, palaeolimnology, USA, Washington, Washington Lake; 02640. phosphorus, lake water quality, lake restoration, Switzerland, Lugano Lake; 08153. phosphorus, lake, USA, New York, Syracuse, Onondaga Lake; 11084. phosphorus, nitrogen, chlorophyll a, limnology, DOC, trophic state, nutrient, USA, Alaska, Big Lake; 05970. phosphorus, nitrogen, lake restoration, lake water quality, nutrient budget, Switzerland, Lugano Lake; 08150. phosphorus, sewage treatment, potable water quality, water quality modelling, water resource management, Brazil, Federal District, Paranao Lake; 05939. phytoplankton, chlorophyll, reservoir management, water level fluctuation, reservoir water quality, Argentina, Cordoba, Embalse del Rio Tercero Reservoir; 07008. phytoplankton, reflectance spectra, chlorophyll a, Germany; Hungary; Bulgaria; Russian Federation; 09844. productivity, sediment-water exchange, surface sediment, microalgae, phytoplankton, oxygen cycling, nutrient cycling, USA, North Carolina, Neuse Estuary; 03275. residence time, subarctic lake, sewage load, reduced load, water quality, sewage loading, Canada, Quebec, Lake Pearce; 00556. salinisation, anthropogenic impact, water quality, water resources, global scale, pollutant, 02655. seasonal change, reservoir, carbon, nitrogen, phosphate, Russian Federation; 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01032. surface water quality, nitrate, fertiliser, groundwater quality, agricultural pollutant, Russian Federation, Moscow; 08217. surface water quality, phosphorus, anthropogenic impact, Spain; 02670. toxicity, bioavailability, phytoplankton, phosphorus, particulate matter, lake, bioassay, Switzerland, Geneva Lake; Rhone River; 06454. trophic status, transparency, DO concentration, sedimentation, phosphorus sedimentation, Japan, Biwa Lake; 02697. water purification, orthophosphate, algae, phosphorus, wastewater treatment, South Africa, Vaal River Barrage Reservoir; 06093. water quality management, ecological management, management strategy, Hungary, Balaton Lake; Norway, Lillehammer Lake; 10585. water quality protection, nutrient load, nutrient retention, lake water quality, Hungary, Balaton Lake; 12953.
- eutrophication control**  
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- eutrophication rate**  
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**evaluation raingauge**

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**evaporative loss**

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**evaporimeter**

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Aracatuba Formation, Bauru group, Cretaceous, palaeoclimate, crystal mould, mould, Brazil, Sao Paulo State; 03334. bottom water, seafloor, water column, brine, Messinian, Miocene, dissolution, Mediterranean Sea; 00066. brine chemistry, solar radiation, evaporation, halite, gypsum, anhydrite, 05483. brine, Bouma sequence, continental rift, Kenya, Kenya Rift Valley, Bogoria Lake; 12285. brine, supersaturation, hypersaline lake, salinity, Israel, Dead Sea; 12286. bromine, Roet deposit, Triassic, subsidence, Poland, Osno; 11168. carbonate, mapping, pinnacle, reef, USA, Michigan, Michigan Basin; 08655. carnallite, brine, cement, lake water, temperature, solubility, seawater, potash, China, Qaidam Basin, Dabusun Lake; 05439. Cretaceous, Bauru Group, Marília Formation, trona, groundwater, Brazil, Minas Gerais, Triangulo Mineiro; 02198. Devonian, lacustrine facies, pseudomorph, Berriedale Flagstone, UK, Scotland, Caithness, Berriedale; 12341. dolomite, Haselgebirge Formation, carbonate, Permian (Upper), Austria, Northern Alps; 01051. efflorescence, sodium, sulphate, magnesium sulphate, Spain, Navarra, Peralta; 00995. Eocene, unconformity, erosion, tectonism, sea level rise, transgression, regression, Asiyah Formation, shale, Libya, Sirt Basin, Al Hufrah area; 05511. geothermal gradient, anhydrite, pseudomorph, gypsum, Permian, halite, salinity, USA, Texas Panhandle; 07681. groundwater chemistry, saprolite collapse, aluminosilicate evaporite, groundwater movement, weathering profile, dambo, leaching, aluminium, Malawi; 02724. gypsum, anhydrite, clastics, carbonate, Permian, Yugoslavia; 07689. gypsum, anhydrite, dolomite, breccia, Permian, Yugoslavia, Dinarides; 07690. halite, glauberite, brine, Jurassic, Anning Formation, China, Yunnan Province, Anning; 12345. hydrogen sulphide, thermal spring, spring, karst, groundwater discharge, groundwater chemistry, Greece, Kaiafa; 08215. illite, thermal history, Haselgebirge Formation, chlorite, potassium, clay mineral, Austria, Northern Calcareous Alps; 05567. Mesozoic, oxygen, isotopic signature, Cainozoic, sulphur, 06517. Messinian, sulphur, thiophene, biomarker, palaeoenvironment, Mediterranean Sea; 07737. Permian, Zechstein, reaction model, seawater, brine, geochemistry, fluid inclusion, 05482. precipitation, groundwater chemistry, sulphate reduction, alkalinity, dissolution, France, Hérault, Lodeve Basin; 08218. rainwater, brine, sedimentation, Spain, Ciudad Real, Pedro Munoz, La Mancha; 12283. rifting, anhydrite, halokinesis, halite, uplift, dissolution, diagenesis, Yemen Republic, Salif; 07692. sabkha, Lower Fars Formation, Miocene, lake, groundwater, Spain, Cabriel; Teruel; 02203. temperature dependence, rubidium, sylvite, crystallization, seawater, 11190. transgression, Miocene, Carpathian Foredeep, anhydrite, limestone, gypsum, Poland, Holy Cross Mountains; 05493. unsaturated zone, interstitial water, groundwater chemistry, evaporation, tritium concentration, flushing, Middle East, Dead Sea; 08199. Visean, isotope composition, limestone, breccia, Belgium; 06521. Zechstein, diagenesis, Permian, Rotliegend, porosity, porewater, sandstone, reservoir, North Sea; 00124.

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- tion, lysimeter, millet, soil evaporation, transpiration, Niger; 11563. potential evaporation, hydrological modelling, land surface, Egypt; Argentina; 09806. precipitation, soil moisture, climate change, water balance, temperature, USA, Missouri; Kansas; 00465. rain forest catchment, storm flow runoff, water balance, streamflow, subsurface outflow, soil water storage, Brazil, Amazon Basin; 11568. rainfall/runoff, water balance, river discharge, areal precipitation, Belgium; China; Burma; 01461. rangeland vegetation, carbon dioxide, water stress, photosynthesis, USA, Kansas; 05903. recharge estimation, carbon-14, isotope study, point recharge, diffuse discharge, groundwater, salinisation, Australia, Murray-Darling Basin; 07021. regional evaporation, Wreva model, Bolivia; 06920. remote sensing, regional evapotranspiration, vegetation index, surface temperature, air temperature, Hungary; 12853. root zone, soil water balance, soil moisture content, water content estimation, mountain catchment, 10512. rooting depth, agrometeorology, soil water balance, crop simulation model, water stress, soil water availability, root development, soil water depletion, 02754. runoff yield, timber harvest, streamflow, forest hydrology, water balance, France, Massif Central, Mont Lozere; 11764. runoff yield, wildfire, Mediterranean basin, hydrological response, flood regime, France, Var, Maures Massif, Rimbaud Basin; 10402. runoff, river discharge, water balance, fluvial transport, climate change, land use effect, soil moisture, South America, Amazon River; Tocantins River; 09234. salt balance, soil erosion, water balance, river channel stability, flood, climate change, land degradation, Mediterranean; 10235. sapflow, forest water balance, evaporation, canopy resistance, water balance, soil water balance, throughfall, stemflow, interception, 02750. seasonal frost, permafrost, frost, wetland hydrology, groundwater movement, North America; 09407. seepage, hydrological budget, freshwater marsh, water budget, water loss, France, Charente-Maritime, Moeze Marsh; 00510. sensible heat flux, Priestley-Taylor parameter, USA, California, Davis; Brazil, Campinas; 04840. soil moisture deficit, land use, water balance, agricultural catchment, vegetation, UK, England; 00649. soil moisture storage, precipitation, seasonal runoff, runoff, river runoff, global atmospheric model, Brazil, Amazon River; 02615. soil moisture, hydraulic gradient, groundwater recharge, infiltration, precipitation, USA, Illinois; 09361. soil moisture, water resources, precipitation, runoff, water demand, climate change, ecohydrology, Poland, Poznan; 00467. soil water deficit, interception loss, Penman-Monteith equation, stomatal conductance, 05902. soil water storage, percolation loss, estimation method, soil conditions, nitrogen leaching, 02753. stable isotope, water vapour, transpiration flux, rice crop, Australia, (Southeast); 00482. stemflow, throughfall, spruce stand, interception, France, Voges, Strengbach; 11561. stomatal resistance, Penman-Monteith relationship, water balance, forest, 08337. streamflow recession, catchment parameter, Denmark, Alling River; Tude River; 01455. surface hydrology, wetlands, precipitation, USA, Florida, Okefenokee Swamp; Georgia, Okefenokee Swamp, Suwannee River Sill; 01484. thinning treatment, interception loss, throughfall, soil moisture management, water use, pine plantation, forest, 02752. TM, NOAA, spatial variability, Denmark, Jutland, Viborg; 06381. unsaturated flow, water table depth, root density, soil water, water supply capacity, 10502. vegetation index, net primary productivity, Africa; 13389. vegetation index, water shortage, agricultural meteorology, crop water stress, France; Algeria; 09816. viewing geometry, crop, 03180. water balance, agricultural water balance, agroclimatic zoning, GIS, precipitation, temperature, China, Yunnan; 04978. water balance, crop, maize, forest, France; 08336. water storage, groundwater fluctuation, runoff, bog regeneration, percolation loss, wetlands, water balance model, 08104. water use efficiency, wheat maize, saline soil, river plain, plant water use, China, Huang Huai River; 13033. wetland hydrology, groundwater discharge, fen, water balance, precipitation, water table, 02647. wheat stand, sugar beet stand, ontogenesis, canopy, 05068. wind speed, actual nighttime ET, actual daytime ET, USA, Utah; 03732. yield reduction, irrigation, crop water use, soil moisture deficit, UK, England, East Anglia; 01537.
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- exchange cation**  
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- exchange complex**  
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- exchange standard**  
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- flood data**  
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- flood defence**  
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- flood extent**  
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**flood hydrology**

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terrace, terrestrial record, loess, morphotectonic level, subsidence, paleosol, alluvial fan, Hungary, Danube River Basin; 03507.

**flood power**

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**flood prediction**

design flood, ungauged basin, rational formula, concentration time, storm intensity, 00483. extreme event, runoff data, nonzero skew, Pearson type III distribution, maximum discharge, stream discharge, 10392.

**flood prevention**

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**flood protection**

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karst, bacterial contamination, limestone, hydrogeology, Ireland; 01590.

**flood pulse hypothesis**

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**flood quantile**

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**flood quantile estimator**

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**flood regime**

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**flood risk**

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**flood series**

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**flood storage**

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- floodplain morphology**  
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- floodplain pond**  
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- floodplain sedimentation**  
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lamination, clinoform, Phanerozoic, turbidity, Mancos Shale, USA, Utah; 09867.

**foreset sequence**

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beach profile, beach sediment, erosion, accretion, wave, grain size distribution, storm, USA, North Carolina, Duck; 03284. entrainment, sand, aeolian transport, beach width, wind speed, storm surge, grain size, USA, New Jersey, Delaware Bay; 05432. erosion, monsoon, headland, beach profile, coast, India, Karnataka, Ramanagundi Beach; 02157. littoral drift, tracer, bathymetry, groin, storm, erosion, protection, 00034.

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- Ireland; 07489. environmental pollution, coal mining, image processing, Spain, Teruel, Montalban; 04243. environmental resource, global monitoring, 07511. environmental restoration, predictive model, USA; 06409. environmental science, Antarctica; 13421. epidemiology, Lyme disease, USA, Maryland, Baltimore County; 04317. error model, categorical data, overlay, uncertainty, 00828. error propagation, error indices, spatial database, 00829. error, data quality management, 07428. error, spatial database, 01965. estuary, water quality, fisheries management, USA, North Carolina, Albemarle-Pamlico Estuary; North Virginia, Albemarle-Pamlico Estuary; 05362. exchange standard, data structure, metadata, 01959. expert system interface, GRASS, format conversion, digital elevation data, 12051. expert system, Houston toad, pest management, 05356. expert system, hydrological database, 12132. expert system, soil map, manure application, slurry injection, land evaluation system, Netherlands; 03685. expert system, water resource model, information technology, graphical interaction, 12131. expert system, wetlands, USA; 04270. feature extraction, error, terrain analysis, DEM, 04177. financial, Ordnance Survey, 13361. finite element simulation, finite element flow model, environmental hydraulics, Germany, North Rhine-Westphalia, Agger River; 12141. fire management, USA, New Mexico; Colorado; 05355. fire protection, government agency, USA, California, Oakland; 02104. fire risk, landscape ecology, nature, conservation, Japan, Honshu, Kakuda National Park; 13405. flood hazard, database design, China, Yellow River; 12120. forest depletion, bush fire, emergency food planning, African elephant, Africa; 05352. forest inventory, timber management, USA, Oregon; 05344. forest resource management, Canada, British Columbia; 05343. forest, land evaluation, site assessment, 02045. forest, park, USA, Oregon; Washington; 10977. forestry, fuelwood production, spreadsheet, Nepal; 05336. fuel model, fire management, USA, California, Cuyamaca Rancho State Park; 05346. fuelwood, Botswana; 06364. GCM, runoff scenario, precipitation, evaporation, climate change, runoff-climate model, Australia; 08074. generic modelling tool, customisation language, hydrological modelling, 12126. geochemical data, groundwater modelling, 12153. geodata, technology, 13279. geographical information, information science, 07434. geographical science, spatial data manipulation, spatial analysis, 12043. geology, teaching, mathematical geology, 05324. geomatics, spatial analysis, data structure, spatial information, 05276. GIS, design methodology, 01950. global analysis, DEM, 08612. global change, 08579. government agency, implementation, private sector, Thailand; 06302. government, cadastre, land use, environment, USA, Florida; 08714. government, education, 00955. GPS, monumentation, land surveying, USA, New York, Nassau County; 07397. GPS, planning, socio-economic data, Philippines, Cebu Province; 12183. ground truthing, geophysical investigation, groundwater exploration, Botswana; 12149. groundwater contamination, groundwater vulnerability, aquifer characteristic, USA, (Southeast); 09380. groundwater modelling, user requirement, 12152. groundwater recharge rate, nitrate leaching, pesticide leaching, agricultural pollutant, 12163. groundwater, pesticide, Europe; 02071. groundwater, pesticide, USA, Nevada, Sussex County; 04289. groundwater, water resources, USA, Kansas; 03218. habitat management, artificial intelligence, mountain reedbed, South Africa; 04265. harvest, land management, resource management planning, USA, Oregon; 05338. hazard analysis, USA, California; 08713. health risk, atmospheric toxics, 07473. health services, human services, 06419. headland, point source data, spatial data, 13407. herbicide, groundwater contamination, agricultural chemical, atrazine, USA; 12167. highway planning, impact analysis, Canada, British Columbia, Vancouver Island; 05379. historical data, snowpack, trend analysis, snow water content, USA, Maine; New Hampshire; 10555. hurricane, planning, USA, South Carolina, Hilton Head Island; 00879. hydraulic model, floodplain, 12119. hydraulic resistance, transmissivity, groundwater head, groundwater modelling, 12151. hydrochemical model, water quality, heavy metal concentration, USA, Colorado, Arkansas River; 12145. hydrogeological map, groundwater flow, correlation factor analysis, 12161. hydrogeological modelling, site investigation, hazardous waste, 12190. hydrographic service, data collection, field data, UK; 03094. hydrological model, hydrological analysis, time, 12127. hydrological model, runoff, watershed, 03212. hydrological model, terrain analysis, gridded flow connectivity, grid point modelling, Egypt, Nile River; 12138. hydrological modelling, data storage, remote sensing data, digital terrain model, 10367. hydrological modelling, drainage network delineation, rainfall/runoff distributed modelling, Italy, Arno River; 12136. hydrological modelling, drainage study, USA, Florida, Polk County; 08665. hydrological modelling, model accuracy, 12128. hydrological modelling, uncertainty estimation, model simulation, 12125. hydrological modelling, unit hydrograph, flood hydrograph, 06386. hydrological modelling, water resources, 08666. hydrological simulation, water resource planning, land management, water resource planning, South Africa, Natal, Mgeni; 12178. ice cap, Svalbard, Nordaustlandet; 13422. image analysis, Verners lens, deformation lens, seismicity, bathymetry, elevation data, Sweden, Vanern; 11263. image data, remote sensing, 01944. image processing, land use, polygon, 04321. imaging systems, aerial photography, photo interpretation, UK, London, River Lea; 02061. impact map, sea level, UK, Fenlands; Tees; 08680. industrial surveying, surveying industry, GPS, 08526. inference engine, expert system, knowledge base, 04204. information manager, data processing, Switzerland; 05298. information requirement analysis, prototyping, 12048. information technology, local government, UK; 07551. interactive language, database, structured query language, 00830. interdisciplinary research, environment, 04142. Koala, Australia, Queensland; 05354. kriging, fuzzy set theory, soil mapping, 12701. land availability, site selection, plantation, USA, Hawaii, Molokai Island; 04275. land base, digital database, 00832. land classification, natural resources, land use, environmental impact, 03171. land cover, mapping, spatial unit, 05282. land management, local government, photogrammetry, UK, Hampshire; 02105. land planning, water resource management, 12177. land suitability, 04261. land use policy, change, 13462. land use, deforestation, Philippines; 08644. land use, development project, water quality, USA, Texas, Austin; 03225. land use, gully density, soil erosion, land degradation, erosion risk, Spain; 03599. land use, planning, modelling, 11024. land valuation, pollution monitoring, address searching, USSR; 05389. landbase, map standard, 01958. landscape ecology, 13402. landscape ecology, environmental planning, Czech Republic; Slovakia; 13404. landscape, spatial heterogeneity, ecology, 13390. large format scanning, data conversion, scanning, digitisation, 04158. line generalisation, cartographic procedure, 05319. line intersect sampling, map accuracy, 04222. LIS, standard, legislation, data quality, 10901. litigation, data sharing, standard, 04207. local authority planning, local government, Italy; 05371. local government boundary, community boundary definition, UK, England; 12184. local government, Iceland; 00944. local government, UK, Wales, West Glamorgan; 04203. local government, UK; 05370. mangrove deforestation, shrimp farm, TM, Costa Rica, Chomes; 00893. map design, graphics, 03115. map generalisation, habitat, species richness, conservation, USA, California; 04263. map, accuracy, standard, aerial photography, USA; 06303. mapping, airborne multispectral sensor, Canada, Ontario, Guelph; 10943. mapping, wildlife, survey data, Bayesian model, UK, Scotland, Grampian; 10997. marine resource management, explosives testing, underwater photogrammetry, USA, Florida, Florida Keys National Marine Sanctuary; 05363. market area, convex hull, 11023. market research, 06415. marketing, water management, information system, automated map production, Netherlands; 00946. meta-information, quality information, integration, spatial data, 00827. military base, environmental resource, land management, USA, North Carolina, Camp Lejeune; 13393. mineral exploration, 05325. mineral resource, geological exploration, China, Hunan, Xianghualing; 02018. mining, resource management, 06349. multimedia technology, complexity, 08580. multiparticipant, database, USA, Florida, Orange County; Orlando; 13457. multithreaded database, disk array, 05290. multivariate ecological analysis, river channel management, riverine plant species, environmental gradient, UK, England, Essex, Blackwater River; 12137. national atlas, socio-economic development, Cuba; 05314. national LIS, LIS, UK; 04145. national standard, data exchange, 01961. nature reserve, soil mapping, groundwater model, Belgium, Walenforest; 12157. navigational chart, chart production, 12057. network analysis, gas mains database, UK; 12185. network routine, water flow, transport, 08662. non-target population, pesticide evaluation, aerial photography, 04267. nutrient export, hydrology, erosion model, 12095. object orientation, data structure, cadastral data, 10908. object oriented application, 06306. object oriented application, France; 06308. object oriented model, modelling, 10914. object oriented programming, cartography, 04218. oil, gas, exploration, navigation, GPS, North Sea; 13376. online videotext GIS, education, GISET Project, 13345. optimal path algorithm, connectivity, 07427. orthorectification, digital orthophotograph, 03039. overview, 13336. peat extraction, land management, UK, Northern Ireland; 02056. pen computer, 12044. philosophy, geography, theory war, 06246. photo flight planning, aerotriangulation, PCs, 00854. photogrammetry, remote sensing, 10837. photogrammetry, vector, aerial photography, 01949. planimetric mapping, forestry inventory mapping, AutoCAD, Canada, Ontario; Central African Republic; Canada, Newfoundland; 05279. planning, history, technological innovation, 13461. point pattern analysis, spatial statistics, 12038. pollutant, discharge, transboundary river, agriculture, Netherlands; 12146. pollution source, water quality, drainage network, 04288. polygon overlay, algorithm, 12045. power line, corridor, USA, Florida; 08716. precipitation, temperature, evapotranspiration, water balance, agricultural water balance, agroclimatic zoning, China, Yunnan; 04978. precipitation, water resources, orographic precipitation model, USA, Colorado, Gunnison River Basin; 12072. prescribed burning, wildfire, USA, California, Idyllwild; 00913. Probable Maximum Flood, dam, 00937. problem solving, object oriented programming, 13339. professional status, GIS curriculum, 07560. project evaluation, USA, Texas, Houston; Milwaukee; 12189. property register, pilot study, Ireland, Dublin; 06418. public domain, 00824. public health, urban environment, environmental audit, UK, Northern Ireland, Belfast; 04316. public sector, administration, Greece; 03091. quality assurance, data quality, error propagation, 07429. quality, property tax, USA, Canada; 11032. quantification, erosion hazard, forest, soil erosion, 07941. query system, highway data, USA, Missouri; 05380. rabbit management, land evaluation, New Zealand; 05335. radar data processing, vegetation classification, boreal forest, 07496. real estate, international trucking, 05382. red deer, Bayes' theorem, UK, Scotland, Grampian; 00821. reference system, satellite imagery, raster, Antarctica; 09750. regional land use planning, Delphi technique, land suitability evaluation, China, Jiangsu Province, Liyang County; 12108. relief shading, DEM, 04178. remediation, soil contamination, Netherlands; 13387. remote sensing, environmental management, 13388. remote sensing, GPS, coast, resource management, USA, Georgia, Sapelo Island; 04304. remote sensing, hydrology, river catchment, flood forecasting, soil water storage map, 12111. remote sensing, land use, dam, watershed, Taiwan, Shimen Dam; 04291. remote sensing, national report, 05227. research agenda, artificial intelligence, 13337. research, 00816. research, education, Germany; 06301. research, UK; 06299. reservoir, cooling reservoir, aquatic macrophyte, USA, South Carolina, Par Pond; L Lake; 05916. resource data, standard, USA; 13341. resource development, remote sensing, Africa; 10940. resource management, 07420. resource management, mountain development, Nepal; 12110. resource management, USA, New Mexico, El Malpais National Conservation Area; 02042. resource planning, Canada, Alberta; 05337. response unit, landscape ecology, 13406. retail business, market area, 07426. retail planning, PAFEC, 13448. routing, cost benefit analysis, corridor location, 07425. routing, transportation, USA, Indiana; 13447. runoff model, stormwater, urban storm water, 08667. runoff rate, overland flow, urban drainage, storm sewer, distributed parameter model, hydrology, DEM, 09265. runoff water quality, sediment yield, grid cell size, nonpoint pollution, model sensitivity, 10473. runoff, synthetic unit hydrograph, Monte Carlo simulation, flood simulation, Canada, Alberta; 12122. rural development, bedouin population, Egypt; 12109. rural environment, soil utilisation, environment planning, 05353. rural, residential, settlement, Canada, Ontario, Toronto; 08699. salinity, sodicity, irrigation, gypsum requirement, soil reclamation, Kenya, Holo; 01418. scanner technology, map information, data integration, digitisation, 10913. school facility, FM, France, Languedoc-Roussillon; 08721. SDTS, standard, FIPS 173, 08595. sediment deposition, Germany, Bavaria; 00878. sediment yield, soil erosion, soil erosion, slope land, Taiwan, Bajun Watershed; 04714. sediment yield, soil loss, erosion evaluation, erosion prediction, mountain regions, USLE, Taiwan; 10246. sensitivity analysis, California condor, wildlife habitat model, 00921. sensitivity map, computer system, decision making, headwater erosion, wind erosion, France, Gascogne, Landes, Leyre Watershed; 10233. shape recognition, object representation, interpolation,



01948. simulation system, water management, environmental planning, decision support, 12170. site location, archaeology, Netherlands; 04326. site selection, coastal aquaculture, salmonid cage culture, UK, Scotland, Argyll, Oban; 12180. site selection, sewage waste, 00952. ski map, mapping, 06407. slope stability, failure, 06666. slope steepness, soil, solifluction, mass movement, Colombia, Tolima, Coello River Basin; 00896. slope, aspect, 05263. slum analysis, expert system, India, Bangalore; 05367. snow, alpine area, spatial modelling, USA, Colorado; 08693. software development, CASE, 10909. software, multimedia, 01942. software, PC image processing, 00839. soil degradation, land use, Poland; 04258. soil drainage, soil mapping, map digitisation, USA, Pennsylvania, Mifflintown; 12727. soil information system, nitrate leaching, groundwater recharge, erosion risk, groundwater contamination, Landsat TM, 07487. soil mapping, soil classification, kriging, Netherlands; 03612. soil science, electronic data processing, 00883. soil survey, heavy metals, Germany, Schleswig-Holstein; 11533. soil vulnerability, soil pollution, SOVEUR programme, Europe; 11440. space, planning, 08701. spaghetti-hoop boundary, UK, Scotland, Scottish Marine Estate; 02090. spatial analysis, data structure, GIS teaching, 03237. spatial analysis, format conversion, database, remote sensing, 03090. spatial analysis, UK, England, Northumbria; 08719. spatial analysis, urban travel, 07555. spatial autocorrelation, spatial statistics, 05283. spatial cognition, mental representation, 00840. spatial data analysis, 05280. spatial data handling, environmental research, 05350. spatial data structure, run-length-code, 07432. spatial statistics, slope exposure map, 08581. spatial statistics, spatial analysis, 05281. SPOT, road development, road network detection, 00950. SPOT, urban data, France, Paris; 08697. standard, exchange, LIS, Switzerland; 10935. standard, map design, 10843. statistical visualisation, cluster analysis, 06305. storm parameter, surface flow, groundwater recharge, water balance model, Saudi Arabia; 12140. stream drainage system, stream characteristic, basin characteristic, database, 09260. succession modelling, dune, landscape development, groundwater, 00894. surface temperature, biomass, temperature gradient, wind speed, Singapore; 07463. sustainable development, global monitoring, environmental management, 07423. system design, data management, 05288. technical cooperation, desertification, Argentina, Patagonia; 12107. technology implementation, economics, Russian Federation; 13335. terrain analysis, radiation, soil water content, catchment runoff, erosion potential, Australia, Lockyersleigh; 12134. terrain model, topographic data, 01946. three dimensional image, remote sensing, Japan; 01952. TM, SPOT, land use, agriculture, Slovenia, Kranj; 06360. topography, map, semantics, object classes, 01956. topology, vector map, three dimensional map, data structure, 03102. toxic chemical release, environmental medicine, risk assessment, USA; 12191. traffic management, planning, Germany, Cologne; 13449. training, education, 03240. training, education, 10903. transport system, British Rail, 02092. transportation planning, traffic volume, overlay, travel demand, 07554. truck routing, fuel consumption analysis, environmental monitoring, weather satellite, 07422. turnpike, hypermedia, USA, Massachusetts; 02094. two dimensional database, three dimensional database, France, Brittany; 08578. typology, remote sensing, urban zone, classification, 02089. UNIRAS, hydrological information system, thematic map, 09764. unit hydrograph, runoff velocity field, rainfall/runoff response, 12135. urban development, low-income shelter, SPOT, Pakistan; 03222. urban growth, urban modelling, 00943. urban planning, regional planning, data structure, TIGER, 00838. urban planning, teaching, research, 03238. urban storm drainage, drainage model, 12192. urban, information system, UK, England, Bath; 06417. user interface, 05295. utility companies, AM/FM, 00945. utility, power, USA; 08717. variability, digital map, soil map, 08627. vector/raster conversion, 00836. vehicle flow, patrol allocations, Olympic Games, Spain, Catalonia, Barcelona; 05388. vehicle tracking, route selection, 03228. village, Slovenia, Skocjan Cave; 10976. visual buffer strip, environmental planning, 04253. visualisation, 01953. Voronoi polygon, hospital, 03232. waste disposal, sand exploitation, environmental database system, groundwater management, Czech Republic, Bohemia, Ceske Velenice; Austria, Lower Austria, Gmund; 12160. water abstraction, ecological model, groundwater modelling, Netherlands, Zandvoort; 12155. water industry, pollution legislation, water resource management, multimedia, 12173. water management, geohydrological information system, groundwater model, Netherlands; 12159. water management, transboundary drainage basin, South Africa; 12174. water planning, decentralised GIS, USA, Kansas; 00947. water quality, watershed, multimedia, water resource simulation, 12133. water resource management, data integration, data source, water quality, 12176. water resource management, Tunisia; 12175. water resource planning, water demand, forecasting, USA, Texas; 10575. water resources, management, 08661. watershed assessment, forestry, wildlife habitat, Canada, British Columbia, Vancouver Island; 05347. watershed, agriculture, pollution, USA, Pennsylvania; 08652. wildfire control, urban growth, flood management, wind erosion, USA, California, Kings County; Oakland Hills; 07548. wildlife habitat, runoff, timber harvesting, herbicide, hydrological basin, USA, Washington; 07501. woodland management, economic planning, 05345.
- GIS accuracy**  
geodetic network, GPS, USA, Washington; Tennessee; USA, Wisconsin; 05254. optimal selection, 07430.
- GIS analysis**  
spatial data, data exchange, database structure, 03100.
- GIS current direction**  
Lower Gondwana Sediments, Barakar Formation, cross-stratification, channel, India, Bihar, Ramgarh Coalfield; 07581.
- GIS curriculum**  
GIS, professional status, 07560.
- GIS database**  
database quality, quality assurance, 10899. land suitability, siting, planning, government, 02106. three dimensional visualisation, digital orthophoto workstation, SPOT, 03040.
- GIS degree course**  
education, training, surveyor, 01939.
- GIS education**  
planning, 03241.
- GIS implementation**  
cost benefit analysis, database maintenance, forestry, Denmark; Finland; Norway; Sweden; 05297. GRADIS-UX, 13343.
- GIS teaching**  
GIS, spatial analysis, data structure, 03237.
- GIS technology**  
statutes, privacy law, law, 05293.
- GISET Project**  
GIS, online videotex GIS, education, 13345.
- Glacial (late)**  
Holocene (early), lake sediment, pollen stratigraphy, radiocarbon dating, Younger Dryas, Italy, Apennines, Val Parma, Prato Spilla; 04654.
- glacial**  
interglacial, Benguela Current, upwelling, Neogene, Quaternary, Miocene, productivity, Atlantic, Walvis Ridge, DSDP Site 362; DSDP Site 532; 04382. oxygen isotope stage, ODP Leg 112, history, coastal upwelling, Quaternary, upwelling, Pacific, (South), ODP Hole 680B; Peru; 04618. oxygen isotope, biogenic silica, global change, ocean temperature, composition, Holocene, Atlantic, (South); Southern Ocean; 00269. periglacial, origin, flow lobe, solifluction, microrelief, Canada, Yukon, Dalton Range; 00342. polygon, gelifluction, terminal moraine, snowline depression, block stream, talus, periglacial, nival, China, Mongolia, Helan Shan; 04687. vegetation, chronology, deglaciation, interglacial, palynology, Europe, Pyrenees; 01256.
- glacial activity**  
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- glacial advance**  
climate change, lake level, lake fluctuation, China, Tibetan Plateau, Kunlun Mountains; 06038. glacial Lake Trimmingham, varve sequence, till deposition, Anglian glaciation, North Sea Drift Formation, sedimentary environment, UK, England, Norfolk, Trimmingham; 02404. ice flow, deglaciation, shoreline displacement, driftwood, till, Russian Federation, Franz Josef Land, Alexandra Land, Lunar Ice Cap; 06763. migration corridor, Wisconsinian (late), Holocene, riparian palaeoenvironment, radiocarbon, USA, Iowa; 09039. moraine ridge, Little Ice Age, marine sediment, radiocarbon dating, Holocene, Svalbard, Edgeoya, Albrechtbreen; 12581. Pleistocene (late), Flakkerhuk moraine, stratigraphy, ice rafted debris, basal till, transgression, isostatic depression, uplift, Greenland, East Greenland, Jameson Land; 00301.
- glacial age**  
continental shelf, erosion, uplift, subsidence, Norway; Barents Sea; 02296.
- glacial cirque**  
congelifraction, solifluction, timber line, periglacial phenomena, frost segregation, Poland, Karkonosze Mts; 11410. postglacial, fracturing, antislope scarp, deglaciation, Spain, Cantabrian Cordillera; 07789.
- glacial clay**  
engineering geology, deposition, geotechnical parameter, USA, Illinois, Chicago; 01168.
- glacial climate oscillator**  
mass conservation model, ice sheet cyclicity, cynchronicity, stratigraphic record, unforced oscillation, basin model, freeboard model, 06612.
- glacial condition**  
NADW, Pleistocene (late), palaeoceanography, ODP, Atlantic, (South); Southern Ocean; 12538.
- glacial conditions**  
stable isotope data, palynological record, lapse rate, sea level, Intertropical Convergence Zone, El Nino/Southern Oscillation, Indonesia, Molucca Sea; 10154.
- glacial cycle**  
fluvial process, aggradation, backwater effect, loess, TL dating, Vistulian, Poland, Wieprz River; 09072.
- glacial/deglacial sequence**  
diamict, marine sediment, waterlain deposit, sedimentology, stratigraphy, Norway, Skorgenes; 07884.
- glacial deposit**  
chalk aquifer, groundwater chemistry, hydrogeochemistry, UK, England, Norfolk; 11750. classification, dielectric classification, GPR, mapping, Finland, Savukoski; 02410. climate, parent material, till, granite, hornblende etching rate, soil, USA, Montana, Tobacco Root Range; Wyoming, Wind River Range; 10213. Dunajec outflow, San-2 Glaciation, Elsterian II Glaciation, glaciation, TL dating, Poland, Tarnow Plateau; 09029. electrical property, image interpretation, ground penetrating radar, survey, esker, end moraine, USA, Wisconsin; Finland; USA, Alaska, Glacier Bay; 00285. glacial deposit, Itare Group, Permian/Carboniferous, Brazil, Parana Basin; 09948. Holocene, unconformity, grain size, bottom current, estuary, USA, Massachusetts, Boston Harbour; 12246. intertidal flat, sea level rise, reworking, Holocene stratigraphy, USA, Massachusetts, Kingston Bay; Plymouth Bay; USA, Massachusetts, Duxbury Bay; 12247. loess, Elsterian, Saalian, Pilica Interstadial, Pleistocene stratigraphy, Silesian Rampart, Poland, Trzebnica; 11365. organism, seabed sediment, benthic organism, fish, conservation, bathymetry, UK, Scotland; Atlantic, (North); 04375. pedogenesis, paleosol, soil classification, soil morphology, spodic horizon, USA, Washington, Puget Lowland; 10359. periglacial deposit, cirque, valley glaciation, glacial morphology, pergelisol, Portugal, Geres-Xurex Mountains; 11407. Saalian ice, Holocene, marine transgression, Main Stationary Line, geological map, Quaternary, Denmark, Ulfborg; 10070. seafloor sediment, Quaternary, postglacial sediment, glaciomarine sediment, Canada, Ungava Bay; Hudson Strait; 11120. SSSI, geological conservation, conservation, UK; 07856. suspended sediment, reservoir, lake, erosion, Norway; 08756. till stratigraphy, moraine clay, weathering, fluvio-glacial sediment, Poland, Sudetes Mountains; 00294. Warta Glaciation, Wkra Stadial, thermoluminescence, chronostratigraphy, Poland; 12571. Weichselian advance, Holocene, marine transgression, geological map, Quaternary deposit, megavalley, Denmark, Ulfborg; 05681. Weichselian, ice wedge formation, TL dating, Jameson Land Drift, glacial lake, Greenland, East Greenland, Jameson Lane; 00300.
- glacial diamict**  
till, mineral magnetic analysis, lithostratigraphy, provenance, UK, Isle of Man; 05677.
- glacial dispersal**  
till, carbonate, entrainment, shale, escarpment, stagnant basal ice, basal erosion, USA, Ohio, Allegheny Plateau; 06727.



**glacial drift**

regional mapping, striation, clast fabric, geochemistry, diamicton, Quaternary mapping, mineral exploration, Canada, Newfoundland, Baie Verte Peninsula; Springdale Peninsula; 03521.

**glacial drift aquifer**

groundwater quality, bedrock aquifer, anthropogenic impact, groundwater chemistry, USA, Michigan, Barry County; 04955.

**glacial environment**

boulder concentration, drumlin, accretion, boulder lag, debris flow deposit, Ireland; 07855.

**glacial erosion**

deformation, high slope, Würmian deglaciation, crystalline rock, sediment, mass movement, Austria, Alps, Gailtal; 11291. displacement, salt, Laurentide Ice Sheet, Salina Formation, ice sheet, isopach, USA, New York; Ohio; USA, Michigan; 06728. equilibrium line altitude, valley glacier dynamics, subglacial topography, mass balance, basal sliding rate, Svalbard, Spitsbergen, Liefdefjorden, Hannabreen; Erikbreen; 12577. fjord, Quaternary, preglacial landscape, erosion rate, Norway, Sognefjord; 03528. glaciogenic deposit, Quaternary (late), geophysical technique, basal till, glaciotectionic feature, Atlantic, (North), Barents Sea; 11325. plucking, subglacial meltwater, roches moutonnées, UK, Scotland, Grampian Mountains, Dee Valley; 03526. sediment yield, erosion, storage, meltwater, Switzerland, Bas Glacier d'Arolla; 12221. tectonic uplift, Oligocene, glacioeustasy, sea level, marine ice sheet, Barents Sea; 02415.

**glacial erosional intensity**

sediment budget, erosion rate, glacial process, nonglacial erosion, alpine environment, 11346.

**glacial eustasy**

sea level cycle, lithosphere response, tectonic forces, brittle deformation, fault reactivation, Atlantic, Jeanne d'Arc Basin; Indian Ocean; Canada, Newfoundland, Jeanne d'Arc Basin; 10054.

**glacial fluctuation**

last glaciation, glacial stage, Egesen complex, Tardiglacial, glacial stage correlation, France, Haute-Savoie, Arve Valley; 11362. tephrochronology, Pleistocene (late), Ichinosawa stage, Futamata stage, Migimata stage, Kitakenkoku stage, glacial landform, Japan, Japanese Alps, Uchikomi Valley; 00296.

**glacial flute**

diamicton, erosional trough, boulder cluster, Norway, Nordland, Austre Okstindbreen; 07860. grounded ice, aminostratigraphy, Weichselian (early), glacial/interglacial cycle, till ridge, Barents Sea; 12529. model, streamlined ridge, glacier foreland, basal thermal regime, deformation, Norway, Lyngsdalen; 07861.

**glacial formation**

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05735. altithermal environment, micromammalian evidence, oxygen isotope substage 5e, archaeology, Last Interglacial, South Africa; Namibia; 11341. ancient man, archaeological excavation, pollen, stone implement, mammoth, Russian Federation, DeLong Archipelago, Zhokhov Island; 12611. anthropogenic activity, bottom sediment, lake, Estonia, Kurtna Lake District; 08762. anthropogenic activity, lake, sedimentation, palaeoecology, lake sediment, taphonomy, Finland, Pyhäjärvi Lake; 05415. anthropogenic impact, malacofauna, climate reconstruction, Younger Dryas, Subboreal, Subatlantic, France, Burgundy; 07882. aragonite, phreatic zone, diagenesis, carbonate, palaeoenvironment, Bahamas, Ocean Bight; 07634. archaeology, dating, colluvial soil, horizon interruption, soil formation, Mediterranean; 00459. area altitude ratio, firm line, glacier retreat, mass balance, glacier thickness, Pleistocene (late), New Zealand, South Island, Franz Josef Glacier; 04693. aridity, aeolian reactivation, linear dune, USA, Arizona, Tusayan Dunes; 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06472. cirque glacier, accumulation-area ratio, Erdalen Event, Little Ice Age, winter precipitation, equilibrium line altitude, Younger Dryas, Norway, Nordfjord; 03576. climate change, agriculture, anthropology, palaeoenvironmental data, Bolivia, Tiwanaku; 09648. climate change, glacioclastine sediment, sedimentary sequence, climate optimum, Asynchronous neoglaciation, Norway; 05679. climate change, palaeolimnology, fossil diatom, lake level, lake stratification, Kenya, Turkana Lake; 03513. climate change, speleothem, calcite, high-resolution record, USA, Iowa, Cold Water Cave; 06691. climate deterioration, alluvium, mollusc, Iron Age, terrace, Italy, Umbria; 05739. climate history, timber line, vegetation history, orbital forcing, interglacial, Sweden, Lapland; 03539. climate, soil erosion, pollen analysis, lacustrine sediment, late glacial, France, Provence, Etang du Pourra; 05696. coastal emergence, shore platform, radiometric dating, Quaternary, coastal landform, Last Interglacial, TL dating, Australia, Northern Territory, Cobourg Peninsula; 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11124. coral, patch reef, platform carbonate, sedimentary architecture, Belize, Mexico Rocks, Elmer Reef; 08780. cross stratification, sand ridge, sand wave, USA, Florida, Florida Inner Shelf; 07636. delta, geomorphology, hydrocarbon, engineering, sea level, seismic facies, Canada, British Columbia, Fraser River, Boundary Bay; 00029. delta, shell bed, progradation, avulsion, delta emergence, Australia, Queensland, McArthur River; 11403. dendrochronology, floodplain sediment, radiocarbon, conifer, Pleistocene (late), Australia, Tasmania, Stanley River; 07822. 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11401. fault displacement, recurrence interval, slip rate, channel morphology, earthquake, China, Shandong Province, Yishi Fault; 11270. ferrallitic soil, organic matter dynamics, vegetation history, savannah soil, carbon isotope, Congo; 06899. fire, charcoal, radiocarbon dating, rain forest, paramo, drought, El Nino, Costa Rica; 05663. fire, valley, Pleistocene, terrace, Greece, Thassos, Kastron Ammos Valley; 09885. flood, entrenchment, anthropogenic impact, channel geomorphology, channel widening, USA, Arizona, San Pedro River; 10254. flooding, dune, sand bank, progradation, coastal erosion, UK, England, Merseyside, Sefton Coast; Lancashire; 11111. focal mechanism, earthquake, plate motion, stress field, Fennoscandia; 01152. foraminifera, marine organism, strontium, magnesium, calcite, precipitation rate, 00132. foraminifera, recrystallization, porcellaneous foraminifera, magnesium, calcite, Bahamas, Schooner Cays; 09913. forest history, oak-white pine forest, pollen record, spruce/Jack pine forest, pitch pine pollen, late glacial, soil, USA, Massachusetts, Cape Cod, Owl Pond; 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06720. greenhouse effect, permatang coast, coastal landform, morphostratigraphy, shoreline, erosion, accretion, sediment budget, Malaysia; 04372. greenhouse effect, transgression, sea level rise, sedimentation, coastal change, cliff recession, beach profile, 04362. hermatypic coral, sea surface temperature, greenhouse effect, coral diversity, high latitude location, environmental control, Japan, Tokyo, Tateyama; 04615. high sea level, isostasy, Asia, (East); South China Sea, Gulf of Thailand; Asia, (Southeast); 04678. high sea level, sea level indicators, coastal geomorphology, radiocarbon date, South Africa, Cape Coast; 10199. highstand shoreline, palynology, delta, radiocarbon dating, shoreline, Thailand, Chao Phraya Delta; 04676. hydrochemical regime, sedimentation, climate variability, orogenic movement, lake development, Russian Federation, Balkhash Lake; 10188. ice rafted debris, strontium isotope study, late glacial, deep sea core, Atlantic; 02376. ilmenite, ore mineral, mineralogy, leucoxene, rutile, dune, sand, heavy minerals, South Africa, Zululand; 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07877. riparian palaeoenvironment, radiocarbon, glacial advance, migration corridor, Wisconsin (late), USA, Iowa; 09039. rock glacier, talus, snow accumulation, raised beach, lichenometry, movement rate, Svalbard, Spitsbergen; 06786. roughness, weathering, micro-mapping, laser gauge probe, surface, 11414. runoff, evaporation, retrodiction, palaeodischarge, river meander, palaeomeander, precipitation, Poland, Prosna River; 02283. runoff, regolith, alluvium, translucent mineral, heavy mineral composition, Luxembourg, Oesling; 05584. sand dune, aeolian environment, climate change, radiocarbon, calcrite, USA, Alaska, Koyukuk Lowland, Nogahabara Sand Dunes; 04342. sand ridge, marsh, channel, coast, Germany, Schleswig-Holstein, Eiderstedt Peninsula; 05731. sand, sediment supply, longshore drift, sea level, progradation, Sierra Leone, Sherbro Island; 00043. sapropel, lake floor, soil erosion, Ostracoda, palaeoclimatology, Switzerland, Lugano Lake; 06449. scouring, estuary, microtidal regime, valley, Australia, New South Wales, Wangoo; 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04631. sea level, radiocarbon dating, coastal barrier, beach ridge, diatom analysis, Japan, Honshu, Niigata Plain; 07906. sea level, subboreal, palaeoenvironment, Mollusca, France, Vendee Noirmoutier Island, l'Epine, La Bosse; 10195. sea level, uplift, coseismic uplift, aseismic uplift, Chile, Isla Mocha; 03466. seafloor, continental shelf, delta, palimpsest shelf, texture, USA, Mississippi; Alabama; 12290. sediment core, palaeosalinity, palaeotemperature curve, isotope analysis, climate change, Mediterranean Sea; 12533. sediment supply, coastal morphology, eustasy, glacioisostasy, sea level change, UK, England, Northumberland; 11388. sediment transport, continental shelf, smectite, kaolinite, montmorillonite, sea level, India, Cochin, Periyar River; 02168. sediment-water interface, sulphur, iron, black shale, carbon, pyrite, carbonate, Black Sea; 04485. sediment yield, deposition pattern, soil erosion, magnetic mineral, greigite, UK, Wales, North Wales, Llyn Geirionydd; 05691. sediment yield, lake sediment, river, catchment size, erosion, Canada, British Columbia; 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trace fossil, Mannville Group, Wabiskaw Member, Clearwater Formation,  
Canada, Alberta, Marten Hills; 02231. DDT, lake water quality, risk  
assessment, sediment analysis, PCB, PAH, chloroalkylphosphates, Italy;  
03829. deposition, continental margin, Cretaceous, biomarker, geochemistry,  
organic matter, Cainozoic, abyssal plain, catagenesis, Indian Ocean, Argo  
Abyssal Plain; Gascogne Abyssal Plain; 03390. detergent, biodegradation,  
organic pollutant, alluvial aquifer, groundwater contamination, Croatia,  
Zagreb, Sava River; 01576. diagenesis, reef rock, pore system, cementation,  
petrofacies, reservoir, 00048. dissolution, transport, mass transfer, ground-  
water contamination, kinetic model, equilibrium model, 03862. emission,  
nonmethane hydrocarbon, budget analysis, alkenes, ethene, alkanes,  
Atlantic; 09683. engineering, sea level, seismic facies, Holocene, delta,  
geomorphology, Canada, British Columbia, Fraser River, Boundary Bay;  
00029. gas seepage, salt diapir, continental slope, Beggatoa, bacterial mat,  
Gulf of Mexico; 07640. heavy metals, soil contamination, sludge amendment,  
river sludge, France; 06848. hydroxyl radical, photochemistry, precursors,  
nitrogen oxide, ozone, 07308. interstitial water, thermal alteration, oxidation,  
diapir, pH, hydrolysis, organic acid, ODP Leg 125, organic matter, Pacific,  
Bonin-Mariana Area; 03389. isoprene, monoterpene, agriculture, emission  
rate, vegetation, USA, California; 02923. long range transport, photochemi-  
cal reaction, hydroxyl radical, diurnal variation, Japan; 02977. maturation,  
Cretaceous, aquifer, Columbia River Basalt Group, volcanism, geothermal  
activity, USA, Oregon; 01054. maturation, Wilcox Group, reservoir, burial,  
alkalinity, sandstone, ammonium, USA, Louisiana; 00148. Miocene,  
sedimentation rate, fluorescence, organic matter, organic matter, Japan  
Sea, Kita Yamoto Trough, ODP Site 799; 05556. mound, shoreline, biota,  
fossil tube, hydrothermal vent, carbonate mound, chemosynthesis, carboni-  
ferous, sulphate, mineralisation, Canada, Newfoundland; 02233. nitrate  
radical, seasonal variation, nonmethane hydrocarbon, Atlantic, (North);  
09734. nitrogen oxide, motor vehicle emission, driving cycle, carbon  
monoxide, Poland; 11993. ODP Leg 123, Hutton Group, petrofacies,  
turbidite, porosity, throat size, reservoir potential, brine, diagenesis,  
compaction, dissolution, Indian Ocean, Exmouth Plateau, ODP Hole  
765C; Argo Abyssal Plain, ODP Hole 761C; Indian Ocean, Gascogne  
Abyssal Plain, ODP Site 766A; 03311. oil pollution, lake, hopane, Japan,  
Gunma, Lake Haruna; 12236. oil spill, oil residue, beach, supertanker, USA,  
Alaska, Prince William Sound; 06493. organic facies, tectonic evolution,  
subsidence, basin analysis, China, Yitong; 07702. ozone, plant, fumigation  
chamber, controlled environment, 10789. peroxide, organic acid, formalde-  
hyde, Photochemistry Experiment, odd nitrogen, USA, Hawaii, Mauna Loa  
Observatory; 02930. plankton, benthic organism, surface water quality,  
heavy metals, pesticide, detergent, 04885. reservoir, Permian, Zechstein,  
carbonate, pore geometry, image analysis, permeability, porosity, Denmark,  
Logumkloster-1; 02207. resource, seafloor, anthropogenic impact, 07649.  
resuspension, organic matter, sewage, water column, fatty acid, Adriatic Sea;  
07736. river runoff, phenol, pesticide, surface water quality, coastal water,  
Black Sea; 01499. salt marsh, fish, cytochrome, marsh, spilled oil, USA,  
Massachusetts, Buzzards Bay; 06494. sediment profile, sampling, spill, 10046.  
sedimentation, facies analysis, fluvial deposit, palaeoenvironment, palaeocli-  
mate, deposition, palaeosol, Mesozoic, Tertiary, Willwood Formation, USA,  
Wyoming; 00146. Silurian, Devonian, uplift, sandstone, Ras Hamia  
Formation, reservoir rock, shale, Libya, Ghadamis Basin; 05474. soil  
pollution, PAH, respiration test in situ, biodegradation, 04805. solubility,  
contaminant transport, saturated flow, groundwater contamination, dissolu-

tion, retention, 04951. terrestrial origin, Ringnes Formation, organic matter,  
Cretaceous, Jurassic, shale, source rock, maturity, Canada, Canadian Arctic  
Archipelago, Sverdrup Basin; 00141. water column, lycopane, organic  
matter, biomarker, 06564.

**hydrocarbon budget**

carbon monoxide, marine atmosphere, nonmethane hydrocarbon, Atlantic;  
04121.

**hydrocarbon emission**

oil refinery wastewater, atmospheric tracer, emission flux, 04077.

**hydrocarbon field**

survey, North Sea; 13375.

**hydrocarbon potential**

Jilh (Gulailah) Formation, Sudair Formation, Minjur Formation, Triassic,  
lithofacies, United Arab Emirates; 12344.

**hydrocarbon province**

porewater, Permian, Denison Trough, sandstone, Australia, Queensland;  
01042.

**hydrocarbon resource**

progradation, delta, sedimentation rate, India, Godavari Delta; Krishna  
Delta; 00989.

**hydrocarbon waste**

ionisation, chromatography, groundwater quality, TLC, flame ionization  
detection, 07045.

**hydrochemical cycle**

tropical rainforest, precipitation, throughfall, soil water, streamwater quality,  
Brazil, Amazonia; 01611.

**hydrochemical flux**

wetlands, Arctic basin, nutrient budget, fen, snowmelt, Canada, Northwest  
Territories, Axel Heiberg Island; 00629.

**hydrochemical model**

water quality, heavy metal concentration, GIS, USA, Colorado, Arkansas  
River; 12145.

**hydrochemical monitoring**

soil acidification model, nitrogen cycling, forest soil, Netherlands; Germany;  
01415.

**hydrochemical regime**

sedimentation, climate variability, orogenic movement, lake development,  
Holocene, Russian Federation, Balkhash Lake; 10188.

**hydrochemical survey**

recharge area, alluvial aquifer, salt intrusion, irrigation, groundwater quality,  
Australia, Queensland, Lockyer Valley; 01599. water circulation, reservoir,  
morphometry, water quality, Russian Federation, Uglicskoye Reservoir;  
Rybinskoye Reservoir; Russian Federation, Sheksninskoye Reservoir;  
Russian Federation, Ivan'Kovskoye Reservoir; 10493.

**hydrochemistry**

acidification, atmospheric deposition, weathering, water quality, Poland,  
Karkonosze Mountains; 00541. acidified catchment, DOC fraction, soil  
water, streamwater, Norway, Birkenes; 01501. atmospheric deposition,  
aluminium precipitate, water quality, surface water-groundwater interac-  
tion, acidification, Germany, the Senne; 00527. chemical denudation,  
physical denudation, total dissolved solids, weathering, China, Hainan  
Island; Taiwan; 09334. chemical weathering, alkalinity, atmospheric  
deposition, pollution abatement, acidification, critical load, land use effect,  
USA, Maryland; 00547. denitrification, saturated zone, nitrate concentra-  
tion, nitrous oxide, 01574. fen, wetlands, mire, rheophilous rich fen,  
vegetation, Poland, Biebrza River Valley; 04880. forest, acid deposition,  
water quality, UK, Wales, Plynlimon; 06051. geochemistry, sulphide  
precipitation, sulphide oxidation, groundwater chemistry, bank filtration,  
Germany, Berlin, Havel River; 09383. groundwater discharge, water  
temperature, thermal spring, Svalbard, Spitsbergen, Raudfjellet; 00607.  
groundwater discharge, wetlands, water balance, UK, England, East  
Anglia, Badley Moor Fen; 11602. groundwater flow model, environmental  
isotope, hydraulic head, Australia, South Australia, Otway Basin, Gambier  
Embayment; 11704. groundwater mixing, water-rock interaction, ground-  
water chemistry, geochemical evolution, USA, Wyoming, Laramie Basin;  
08214. groundwater protection, karst aquifer, groundwater resource,  
groundwater recharge, France, Provence, Vaucluse, Fontaine de Vaucluse;  
11773. groundwater resource, anthropogenic impact, geomorphology,  
hydrogeology, Italy, Rome, Malagrotta; 08229. groundwater, recharge,  
stable isotope, water resources, Jamaica, Martha Brae River Basin; 01554.  
hydroelectric power station, ecosystem, Black Sea; 01497. isotope, artesian  
discharge, lake water origin, lake recharge, Libya, Fazzan Awbari Sand Sea,  
Mandara Lake; 05918. mountain ecosystem, land use effect, anthropogenic  
impact, river water quality, pH, electrical conductivity, Japan, Tsukuba  
Mountains; 02682. nitrate, groundwater quality, South Africa; 06027. river  
terrace, karst cavity, genesis, formation history, cave, Russian Federation,  
Urals, Kungur Glacial Cave; 12488. river water quality, metals, pesticide,  
faecal coliform bacteria, bacteriological quality, India; 02696. rock weath-  
ering, subtropical, major ion chemistry, pyrite, gypsum, residence time,  
India, Kumaun, Gaula Catchment; 12674. runoff, forest fire, mineralisation,  
France, Massif des Maures, Rimbaud Basin; 01500. sampling, measurement,  
modelling, chemical hydrology, isotopic hydrology, groundwater hydrology,  
hydrogeology, 04909. sediment-water interface, ammonia, organic matter,  
alkalinity, anoxia, nutrient load, Italy, Orbetello Lagoon; 03320. soil water,  
aluminium release, groundwater, hydrograph separation, streamwater,  
Canada, Quebec, Laurentians; 01503. turbidity, mudbank, monsoon, India,  
Kerala, Alleppey, Mararikulam; 03281. water level, precipitation, surface  
water-groundwater interaction, lake hydrology, UK, England, Midlands,  
Oak Mere; 09297.

**hydrochloric acid**

ammonia, emission, urban zone, sulphur dioxide, nitrogen oxide, UK,  
England; 04111. ozone, hydrogen peroxide, stratosphere, chlorine monoxide,  
04103. water, ice, stratosphere, polar stratospheric cloud, ozone depletion,  
05184.

**hydrochloric acid column amount**

chlorine, stratosphere, austral spring, Antarctica, McMurdo Station; 09706.

**hydrochlorofluorocarbon**

hydrofluorocarbon, Fourier transform IR spectroscopy, ethane, propane,  
stratosphere, trifluoromethoxy radical, 06216.



**hydroclimate**

freshwater ecology, river, lake, water movement, anthropogenic impact, ecosystem model, fluid dynamics, 02606. landscape, geocology, geotopology, 11241.

**hydroclimate change**

headscarp, mass movement, Holocene, earthflow, mass movement, Canada, British Columbia; 06668.

**hydroclimatological model**

FAST, plant stomatal conductance, land surface roughness, soil surface wetness, 12123.

**hydroclimatological time series**

drainage network, ablation, glacier hydrology, time series analysis, Switzerland, Valais, Arolla High Glacier; 08219.

**hydrodynamic dispersion**

geomorphological dispersion, travel time, drainage network, bifurcation ratio, channel network, hydrological response, 07758. porewater velocity, solute transport, one dimensional transport, dispersion function, groundwater flow, convection/dispersion equation, 02730.

**hydrodynamic dispersion model**

dispersion, layered aquifer, groundwater flow, hydraulic conductivity, seawater intrusion, semipermeable layer, 05997.

**hydrodynamic force**

bed element, open channel, flow velocity, lift force, drag force, 12885.

**hydrodynamic model**

coastal water quality, nutrient load, salinity, temperature, diffusion, wastewater treatment, Italy, Emilia-Romagna; Adriatic Sea; 06963. flood forecasting, stochastic model, unsteady flow, Kalman filter theory, St Venant equations, 12898. shear flow, semi-infinite barrier, density current, thunderstorm outflow, 09594. Stokes' drift, transport model, intratidal model, water quality, residual transport, estuary, current, salinity, Lagrangian residual circulation, USA, Chesapeake; 03790. topography, hydraulic model, GIS, computer model, flood management, hydroenvironmental engineering, digital ground model, 08249. tropical cyclone, cyclone, source/sink vortex, 09545. turbulence closure model, vertical structure model, open channel flow, 03780.

**hydrodynamical signature**

satellite tracking buoy, bathymetric survey, seamount, Indian Ocean, Novara Knoll; 11260.

**hydrodynamics**

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**hydroecological model**

soil hydraulic property, climate data, water balance, plant growth, Topog IRM, 13037. soil hydraulic property, soil water balance, plant growth, Topog IRM, salinity, rainfall, 13038. soil water flow, forest ecosystem, hillslope hydrology, photosynthesis, evapotranspiration, 09414.

**hydroecological response**

catchment hydrology, carbon dioxide level, water yield, soil moisture content, transpiration, tree growth, climate change, 09236.

**hydroecology**

water cycle, classification, mapping, forecasting, 02579.

**hydroelectric**

irrigation, landslide, reservoir, Azerbaijan, Mingechaurskoe Reservoir; 11292.

**hydroelectric plant**

river regime, flow characteristic, outflow wave, water level, Russian Federation, Krasnoyarsk, Enisei River; 11583.

**hydroelectric power station**

ecosystem, hydrochemistry, Black Sea; 01497. nutrient status, nitrogen, phosphorus, lake water quality, trophic status, Australia, New South Wales, Liddell Lake; 01521.

**hydroelectricity**

cooling water, water management, reservoir system, density current, thermal stratification, 03876.

**hydroenvironmental engineering**

digital ground model, hydrodynamic model, topography, hydraulic model, GIS, computer model, flood management, 08249.

**hydrofluoric acid method**

paleosol, volcanic glass, tephra, Andisol, New Zealand, North Island; 10261.

**hydrofluorocarbon**

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**hydrogen**

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**hydrogen budget**

weathering, acidification, acid precipitation, biomass uptake, mineralisation, soil, stream, forest harvest, 00643.

**hydrogen chloride**

stratosphere, volcanic eruption, chlorine injection, ozone, scavenging, plume dynamics, 10836.

**hydrogen ion**

savannah soil, throughfall, precipitation reactivity, Trachypogon savanna, Venezuela; 06859.

**hydrogen ion consumption**

acid deposition, Podzol, weathering rate, Canada, Quebec, Roundtop Mountain; 01335.

**hydrogen isotope**

peat plateau, oxygen isotope, ice origin, active layer, permafrost, fen, Canada, Yukon, Tuchtuz; 00628. shale, water circulation, metamorphism, Cretaceous, burial diagenesis, oxygen isotope, Japan, Kinki District; 03343.

**hydrogen peroxide**

altitude impact, photochemical, smog, ozone modelling, Mexico, Mexico City; 08510. biodegradation, aromatic hydrocarbon, groundwater remediation, nitrate, microorganism, 11734. clay, iron oxide, tropical soil, particle size fraction, aluminium oxide, kaolinite, organic matter, phosphate fixation, 00421. cloud chemistry, channel model, ozone troposphere, 08468. Criegee bacterial water reaction, rate constant, ozonolysis, alkenes, 07300. electrolyte, stopped flow method, cloud, oxidation, sulphur dioxide, 08490. formaldehyde, maritime boundary layer, tunable diode laser, trace gas, Polarstern Cruise, nitrogen dioxide, 04140. ice-air interface, laboratory study, snowpack, sulphur dioxide, deposition, dry deposition, 08493. marine atmosphere, 04117. nocturnal boundary layer, ozone, formaldehyde, PAN, deposition, Canada, Ontario, Dorset; 09672. organic hydroperoxides, formaldehyde, USA, Hawaii, Mauna Loa Observatory; 07345. ozone, volatile organics, oxidation, organic contaminant, groundwater contamination, water treatment, UV radiation, 07056. peroxide, measurement, gas phase peroxide, 09739. photolysis, oxidation, atrazine, pesticide, ultraviolet radiation, 12920. stratosphere, chlorine monoxide, hydrochloric acid, ozone, 04103. troposphere, USA, (Northeast); 09656. wet chemical process, sulphur dioxide, sulphate, scavenging, cloud, weather prediction model, 08503.

**hydrogen sulphide**

air quality standard, Saudi Arabia, Jiddah; 07336. carbon dioxide, seabed, bacteria, macrofauna, food chain, pockmark, salt diapir, gas seepage, interstitial water, 02254. chlorophyll, algae, nitrogen, phosphate, amino acid, Japan, Lake Nakanoumi; 04352. manganese, sulphur adsorption, 11471. methane, delta, organic matter, gas blanking, acoustic turbidity, gas front, hydrogen, carbon dioxide, nitrogen, ammonia, Hong Kong; 02263. oxidation, surface water quality, sulphite, thiosulphate, fjord, anoxic water, Norway, Framvaren Fjord; 02659. thermal spring, spring, karst, groundwater discharge, groundwater chemistry, evaporite, Greece, Kaiafa; 08215.

**hydrogenated halon**

lifetime, rate constant, ozone depletion potential, bromine, chlorine, hydroxyl radical, fire suppression, 08507.

**hydrogenotrophic denitrification**

water treatment, nitrate removal, potable water, water quality management, methylotrophic denitrification, Belgium, Flanders, Blankart; 06066.

**hydrogeochemistry**

acid mine drainage, diffusion, porewater, unsaturated zone, acidic groundwater, mine tailings, Canada, Quebec, Noranda, Waite Amulet Rouyn; 04943. brine, groundwater quality, groundwater origin, connate water, China, Sichuan Basin; 03858. carbonate rock, precipitation, electrical conductance, groundwater chemistry, Slovakia, Bzince; 07051. classification, fuzzy c-means clustering, groundwater chemistry, groundwater contamination, Netherlands; 09400. factor identification, principal components analysis, groundwater quality, Israel, Coastal Plain; 08209. glacial deposit, chalk aquifer, groundwater chemistry, UK, England, Norfolk; 11750. groundwater chemistry, surface water chemistry, rock weathering, iron, lead, adsorption, coprecipitation, 08113. groundwater recharge, sulphate, sulphide oxidation, dissolution, isotope geochemistry, Canada, Saskatchewan, Assiniboia; 13013. limestone, granite, slate, Ko-biwako, river water quality, Japan, Biwa Lake; 12928. regime model, freshwater lens, groundwater quality, 07052. seepage lake, groundwater, acidity, alkalinity, USA, Maine; 04908. solute transport, groundwater quality, 01560.

**hydrogeological exploration**

karst, remote sensing, aerospace technology, Turkey, Antalya, Koprucay River; 12087.

**hydrogeological information**

groundwater flow model, Scheffe confidence interval, parameter uncertainty, calibration data, 08188. parameter uncertainty, confidence interval, Scheffe confidence interval, groundwater flow model, 08187.

**hydrogeological map**

groundwater flow, correlation factor analysis, GIS, 12161. planning, groundwater, resource management, Botswana; 04286.

**hydrogeological model**

arid zone, water resources, groundwater management, borefield, aquifer depletion, Australia, Northern Territory, Alice Springs, Amadeus Basin; 00664.

**hydrogeological modelling**

geoscientific information system, intrusive rock, extrusive rock, USA, Nevada, Yucca Mountain; 12142. site investigation, hazardous waste, GIS, 12190.

**hydrogeological potential**

groundwater exploration, groundwater resource, borehole yield, basement rock, Malawi; 02784.

**hydrogeological processes**

groundwater resource, groundwater recharge, arid zone, 05981.

**hydrogeological regime**

core analysis, deep waste injection, formation water chemistry, Canada, Alberta; 12165.

**hydrogeological research**

groundwater resource, research programme, France; 00562.

**hydrogeological setting**

drinking water, agricultural chemical, database management, USA, Illinois; 07542.

**hydrogeological survey**

reservoir, dam grouting, karst geology, USA, Alabama, Logan Martin Dam; 11703.

**hydrogeology**

aquifer system, groundwater system modelling, geoscientific system, USA; 12156. aquifer, freshwater lens, island hydrogeology, groundwater recharge,



- West Indies, Cayman Islands, Grand Cayman; 01561. aquifer, groundwater resource, Congo, Brazzaville; 05000. aquifer, map, Mozambique; 04278. borehole design, rural water supply, groundwater resource, high yield, borehole yield, borehole siting, Nigeria; Zimbabwe; 02786. borehole, flow rate, aquifer, groundwater, 09845. coastal plain, groundwater resource, geohydrological unit, aquifer system, USA, (South-central); 04988. electrical sounding, palaeogeomorphology, groundwater contamination, salt water intrusion, saline leaching, Vietnam, Ho Chi Minh City; 13012. estuarine tract, groundwater development, water resources, groundwater management, salt water intrusion, delta, India; 02766. finite element model, formation, groundwater flow model, rock, 07030. flood pulse, karst, bacterial contamination, limestone, Ireland; 01590. fractured aquifer, groundwater resource, aquifer yield, groundwater development, Uganda, Nyabisheki; 04999. groundwater abstraction, groundwater resource, water quality, New Zealand, Nelson, Waimea Plains; 13042. groundwater age, groundwater origin, isotope, Libya, Tawargha Area; 05995. groundwater chemistry, aquifer property, groundwater flow, groundwater resource, USA, (South-east); 10587. groundwater chemistry, isotope, recharge, palaeorecharge, Niger, Air Mountain; 01587. groundwater composition, aquifer, water resources, groundwater level, Saudi Arabia, Hail, Saq Formation; 00656. groundwater contamination, morphotectonics, environmental impact, Iran, Zagros Mountain Ranges; Persian Gulf; 01592. groundwater development, crystalline rock, fracturing, topography, well yield, India, Andhra Pradesh, Visakhapatnam; 08230. groundwater development, safe yield, groundwater resource, India, West Bengal, Bankura District, Sali River Basin; 09432. groundwater exploitation, aquifer simulation model, groundwater resource, simulation model, sandstone aquifer, groundwater recharge, Africa, (North), Tassili Ouan-Ahaggar; Tin Seririne Basin; 05003. groundwater flow pattern, region groundwater flow, salinisation, groundwater resource, Israel, Negev, Kurnub Group; 02721. groundwater flow, facies analysis, aquifer heterogeneity, superfund site, USA, California, Oroville; 02720. groundwater flow, fissure flow, groundwater resource, spring, volcanic aquifer, Reunion, Saint-Gilles Springs; 08179. groundwater flow, hydrodynamics, tracer test, 01545. groundwater flow, mining activity, hydraulic conductivity, geomorphology, Brazil, Minas Gerais, Pocos de Caldas; 07068. groundwater pollution, groundwater protection, pollutant source, pollutant classification, pollutant interaction, Yugoslavia; Slovenia; Croatia; 07062. groundwater quality, aquifer system, water resources, pumping effect, environmental impact, USA, California, Owens Valley; 07098. groundwater recharge, groundwater resource, groundwater exploitation, Egypt, Sinai Peninsula, Saint Katherine; 00660. groundwater resource, aerial photograph, craton, crystalline basement, Landsat TM, borehole, Zimbabwe; 02782. groundwater resource, groundwater flow, groundwater recharge, Algeria, Hoggar, In-Amguel Wadi; 08178. groundwater resource, groundwater recharge, transmissivity, groundwater quality, USA, Colorado River Basin; 06075. groundwater resource, stratigraphy, sedimentology, USA, Atlantic Coastal Plain; 06062. groundwater resource, water balance, alluvial basin, USA, Arizona; 06074. groundwater, karst geomorphology, aquifer, spring, Spain, Burgos, Soria, Rio Lobos Canyon Nature Reserve; 01183. hydrochemistry, groundwater resource, anthropogenic impact, geomorphology, Italy, Rome, Malagrotta; 08229. hydrochemistry, sampling, measurement, modelling, chemical hydrology, isotopic hydrology, groundwater hydrology, 04909. map, aquifer, Ethiopia; 04279. map, groundwater resource, groundwater development, Africa, (North), Tin Seririne Basin; Algeria, Hoggar Mountains; Algeria, Tassili Mountains; 05002. map, groundwater resource, well log, aquifer geometry, Niger, Irhazer Basin; Africa, (North), Tin Seririne Basin; 05001. mapping, Africa; 04281. mapping, arid region, image enhancement, Algeria, Tamanrasset; 04283. mapping, groundwater, aquifer, Africa; 04276. mapping, groundwater, Kenya; 04277. mineral water, groundwater chemistry, potable water, land use, recharge, UK, Scotland; 00615. piezometric depression, environmental isotope, palaeohydrology, water deficit, evapotranspiration loss, Africa, Sahel; 11669. rainfall simulation, hillslope erosion, infiltration, runoff, 10215. remedial measure, drought, soil conservation, artificial recharge, groundwater resource, groundwater exploration, India, Andhra Pradesh; 04993. rock, remote sensing, geomorphology, India, Bihar Plateau; 08635. satellite data, Middle East, Arabian Peninsula; Africa; South America; 04282. sea level rise, swale, water table, solution process, Holbox fracture zone, karst geomorphology, Mexico, Yucatan Peninsula, Quintana Roo; 10119. sewage treatment, reverse osmosis desalination, wastewater injection, groundwater quality, USA, Florida, Charlotte County; Sarasota County; 11733. soil property, legislation, groundwater remediation, groundwater contamination, soil contamination, petroleum fuel, Australia, South Australia; 10533. SPOT, groundwater assessment, Algeria, Hoggar, Tamanrasset; Africa, Sahel; 04285. stratigraphy, contaminant transport, groundwater investigation, dye tracing, karst aquifer, USA, Tennessee, Lewisburg; 11701. thermal aquifer, lithology, aquifer characteristics, groundwater temperature, well yield, Romania; 12982. thin section microscopy, petrological microscopy, hydraulic conductivity, 01551. tower karst, Devonian, limestone, cockpit karst, karstic relief, structural control, structure, China, Lijiang Plain, Guilin; 05625.
- hydrograph**  
 arid watershed, runoff prediction, remote sensing, rainfall/runoff simulation, Mali, Kangassano; 02616. basin response, radar data, peak flow, rain gauge data, estimation accuracy, rainfall estimation, Italy, Alps, Posina River Basin; 08060. disaster prediction, prediction, debris flow, USA, Hawaii; 11077. discharge variability, fan, debris flow rheology, sediment concentration, 10424. discharge, sediment concentration, irrigation, Thailand, Kosi River; 11158. eigen function expansion, kinematic wave approximation, overland flow, flow equation, 03735. flood event, Geosat, SSM/I, flood analysis, precipitation assessment, rain gauge data, Italy, Arno Basin, Florence; 08061. gravel stream, alluvial channel, bedload transport, flood, coarse sediment, Italy; 11071. hydrograph, rainfall loss, time series analysis, nonlinear optimisation, parameter estimation, rainfall/runoff model, 05904. peak discharge, debris flow, flow velocity, measurement, sediment transport, Ukraine, Carpathian Mountains; Crimean Mountains; 10425. raingauge, sampling density, streamflow prediction, rainfall assessment, Thiessen polygon, Canada, Quebec; 10404. satellite imagery, basin model, land classification, semidistributed model, lumped model, Canada, British Columbia, Rocky Mountains; 08076. storage tank, sediment deposition, scale model, flow pattern, sewer, pollutant, 04396. surface mining, infiltration capacity, overland flow, excess overland flow, saturation overland flow, runoff, drainage network, USA, Pennsylvania; 08073. surface runoff, sediment transport, agricultural field, storm model, sheet wash erosion, runoff, Canada, Quebec, Eastern Townships; 02473.
- hydrograph analysis**  
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- hydrograph estimation**  
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- hydrograph separation**  
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- hydrograph separation model**  
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- hydrographic analysis**  
 runoff source, storm runoff, hydrograph separation model, flow path, UK, Scotland, Allt a Mharcaidh; 10398.
- hydrographic characteristic**  
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- hydrographic charting**  
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- hydrographic data**  
 bathymetric map, quality control, 07408. satellite remote sensing, seafloor sediment, Ekman pumping, southwest monsoon, planktonic foraminifera, Indian Ocean; Arabian Sea; 10152.
- hydrographic feature**  
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- hydrographic lidar**  
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- hydrographic office**  
 cartography, 06252. Ordnance Survey, coastal zone, mapping, 08672.
- hydrographic service**  
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**imbrication**

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**Imhoff cone**

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**immiscible flow**

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**immiscible fluid**

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**immobilisation**

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**immunoassay**

gas chromatography, mass spectrometry, herbicide, surface water quality, runoff water quality, 06981. PCB, chromogenic immunoassay, soil contamination, 11478.

**immunoassay technique**

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**impact analysis**

GIS, highway planning, Canada, British Columbia, Vancouver Island; 05379.

**impact assessment**

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**impact crater**

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**impact crater formation**

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**impact cratering**

physical model, mechanical model, back venting, melt generation, crater diameter, Venus; 05604.

**impact map**

sea level, GIS, UK, Fenlands; Tees; 08680.

**impact melt**

frost deposit, rheology, crater, central pit, rim collapse, Ganymede; Callisto; 12423.

**impact simulation**

regional climate, deforestation, climate model, South America, Amazonia; 04054.

**impact structure**

remote sensing, spectral analysis, anorthosite, Moon; 09805. thermal IR reflectance spectra, shocked rock, geobotanical variation, crater, 07474.

**impaction**

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**impaction pattern**

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**impedance measurement**

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**impeding layer**

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**Imperial Formation**

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**impermeability**

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**impermeable layer**

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**impermeable obstacle**

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**implementation**

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**implicit integration**

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**implicit normal mode initialisation**

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**impoundment**

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**impoundment system**

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**imprecise probability**

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**impulse response**

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**impulsive loading**

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**in situ testing**

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**in-situ production**

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**in-situ testing**

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**in-situ water sampler**

lake water quality, water quality monitoring, sampling system, remotely operated vehicle, USA, Wyoming, Yellowstone National Park, Yellowstone Lake; 02699.

**inactive ice**

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**inactive zone**

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**Inceptisol**

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**incipient creep**

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**incipient mudflow**

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**incised meander**

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**incised valley**

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- indicator microorganism**  
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- industrial pollution**  
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- industrial water use**  
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**iron(III)**

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**iron reduction**

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- isotope characterisation**  
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**isotope dilution**

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**isotope enrichment**

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**isotope flux**

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**isotope fractionation**

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**isotope geochemistry**

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**isotope imaging**

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**isotope ratio**

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**isotope record**

Holocene, marine climate, climate record, mollusc shell, upwelling, Atlantic, (South), Benguela; 06719.

**isotope removal rate**

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**isotope signature**

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Acheulian artifact, uranium series dating, stalagmitic flowstone E, Riss/Wurm interglacial, flowstone, speleothem, France, Nice, Lazaret Grotto; 04652. Milankovitch cycle, ice sheet, Last Interglacial, Canada; Greenland; 01292. TL dating, ice sheet, marine sediment, stratigraphy, Greenland; 01267.

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**isotope tracer**

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**isotopic analysis**

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**isotopic study**

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**jar experiment**

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- Jarrett's technique**  
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- Jastraba Formation**  
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- Jemez volcanic field**  
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- Jeppetown Subgroup**  
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- jerky motion**  
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- jet**  
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- jet anomaly**  
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- jet flow**  
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- jokulhlaup prediction**  
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- Joyama Formation**  
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- juniper**  
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- juniper woodland**  
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aridity, savannah, palaeoenvironment, Pleistocene/Holocene, Africa, (Central); (East); 03511. charcoal, palaeolake, radiocarbon dating, Neolithic age, Bama Ridge, beach ridge, Nigeria, Borno State, Konduga; 05672. fossil stromatolite, isotope data, radiocarbon, U-Th chronology, chronology, palaeohydrology, Quaternary (late), Tanzania, Manyara Lake Basin; 04629. ice, slump, sedimentology, delta, Gondwana basin, Talchir Group, India, Orissa, Simlipal; 04419. kettle lake, sediment formation, vegetation, USA, Minnesota; 01245. lacustrine regression, mudstone, sandstone, forced regression, Triassic, East Greenland, Jameson Land; 01043. lake fluctuation, glacial advance, climate change, China, Tibetan Plateau, Kunlun Mountains; 06038. lake stratification, Holocene, climate change, palaeolimnology, fossil diatom, Kenya, Turkana Lake; 03513. Little Ice Age, water level change, Holocene, subarctic lake, tree line, peat, Tyrrell Sea, Canada, Quebec, Lac de Pluviers; 11370. palaeoclimate, Last Glacial Maximum, pollen, Artemisia steppe, water balance model, jet stream, vegetation, Greece, Ioannina Lake; Mediterranean; 06716. Pleistocene, raised shoreline,



geomorphology, lacustrine sediment, China, Tibet, Tibetan Plateau, Siling-co Lake; 03542. retreat, glacier terminus, calving glacier, outlet glacier, riegel, Norway, Austdalsbreen; 05753. shoreline erosion, retreat rate, cliff recession, protection, USA, Great Lakes; Illinois, Lake Michigan; 00035. tree ring width, dendrochronology, radiocarbon dating, floating chronology, USA, Wisconsin, Two Creeks; 07821. water level fluctuation, climate curve, anthropogenic change, boreal climate, Holocene, Europe, (East); 00321. water regime, water balance, anthropogenic input, sea level, Russian Federation, Caspian Sea; 03515.

#### lake level change

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#### lake level decline

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#### lake level fluctuation

historical evidence, climate change, Mexico, Michoacan, Patzcuaro Lake; 10777. sedimentological analysis, glacier advance, Holocene, France, Jura; 07883.

#### lake level reconstruction

groundwater hydrology, sandplain, USA, Minnesota, Parkers Prairie; 03535.

#### lake level variation

historical record, strandplain, radiocarbon dating, progradation, beach ridge development, USA, Indiana, Lake Michigan; 05716.

#### lake management

aerobic sediment, orthophosphate, phosphorus, iron, Denmark; 02138. phosphorus, anoxia, phytoplankton, calcium, USA, New York, Syracuse, Onondaga Lake; 11083.

#### lake marl

stable isotope ratio, oxygen, carbon, palaeolimnology, palaeoclimatology, marl, Finland, Joroinen, Lake Saarijärvi; 02355.

#### lake morphology

compaction, mass movement, seismic profile, depression, dewatering, subsidence, USA, Lake Michigan; 02118.

#### lake morphometry

total phosphorus, lake water chemistry, stratified lake, oxygen profile, 08142.

#### lake outburst

ice dammed lake, lake drainage, moraine dammed lake, air temperature, flood, glacier lake, ice avalanche, China, Tibet; Xinjiang Province; 06045.

#### lake pattern

neotectonics, subsiding basin, elongated lake, lineament, extensional fault, Peru, Marañon Basin, Ucayali Depression; 12425.

#### lake productivity

anthropogenic impact, climate, isotopic analysis, phosphorus, Canada, Great Lakes, Lake Ontario; USA; 00977.

#### lake recharge

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#### lake restoration

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#### lake sediment core

ice sheet, rare earth element model, climate change, geochemistry, sediment, environment, Antarctica, King George Island, Fildes Peninsula, Xihu Lake; 02470.

#### lake sediment varve

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#### lake/sediment model

epilimnion-hypolimnion model, acidity neutralisation, liming, lake water quality, copper concentration, Italy, Orta Lake; 05968.

#### lake shore

active ice movement, Japan, Hokkaido, Lake Kussharo; 00351.

#### lake size

hydrological response, Younger Dryas, Lahontan Basin, Bonneville Basin, USA, Utah; California; USA, Nevada; 01214. limnology, fishery, turbulent energy, mixing depth, thermal behaviour, biota, Canada, Ontario; 09295.

#### lake spillway

bryophyte, ice wedge polygon, macrofossil, peat, Holocene, Canada, Ellesmere Island, Fosheim Peninsula, Hot Weather Creek; 11368.

#### lake stratification

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#### lake surface

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- lake temperature**  
wind direction, air humidity, lake effect snow, snowfall rate, North America, Great Lakes, Lake Ontario; USA, New York; 10557.
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- lake thermal model**  
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- lake turbidity**  
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- lake water**  
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- lake water aeration**  
eutrophic lake, bubble plume, bubble density, bubble size, bubble velocity, 10491.
- lake water budget**  
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**Monte Carlo**

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**Monte Carlo diffusion model**

sulphur dioxide, air quality, urban pollution, mountain area, China, Guiyang; 02981.

**Monte Carlo integration**

probability density function, dispersion theory, groundwater contamination, tracer test, Borden tracer experiment, stochastic moment model, hydraulic conductivity, Dagan's model, Bayesian statistics, 04958.

**Monte Carlo method**

aurora, electron transport, 08297. calibration, quadratic criteria, groundwater flow, parameter estimation, aquifer model, 00601. forecasting, error distribution, dynamic stratification, 00737. photon transport, isotropic variability, cloud, radiative transfer, extinction coefficient, heterogeneous cloud, 07134. reflectance, broken cloud field, cloud field, parameterisation, 03943. slope stability, landslide, critical slip surface, 00222. uncertainty, mass transport simulation, heterogeneity, hydraulic conductivity, uncertainty, 12958.

**Monte Carlo procedure**

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**Monte Carlo scattering algorithm**

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**Monte Carlo simulation**

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**Monte Carlo technique**

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**Monte Carpinoso terrace**

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**Monte Sacro Formation**

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**Monterey Formation**

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adjoint method, temperature, diagnosis, regional anomaly, 04009.
- monthly assessment**  
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- monthly average**  
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- monthly average radiation**  
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- monthly mean flux**  
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- monthly mean temperature**  
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- monthly mean temperature data**  
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- monthly precipitation**  
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- monthly rainfall**  
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- monthly runoff**  
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- monthly statistics**  
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- monthly streamflow**  
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- moraine clay**  
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- moraine dammed lake**  
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**phosphate adsorption**

coating, iron oxide, calcite, calcareous soil, carbonate mineral, Sudan; 00422.

**phosphate availability**

volcanic ash soil, buffer capacity, plant uptake, extractant, 10300.

**phosphate complex**

uranium speciation, water chemistry, uranium cycling, 08112.

**phosphate fixation**

hydrogen peroxide, clay, iron oxide, tropical soil, particle size fraction, aluminium oxide, kaolinite, organic matter, 00421.

**phosphate flux**

Nereis, bioturbation, sediment-water interface, estuary, Spain, Palmones River Estuary; 02142.

**phosphate fraction**

extractant, slope, fertiliser, pasture soil, New Zealand, North Island, Whatawhata; 02551. fertiliser, extractant, plant uptake, New Zealand, North Island, Whatawhata; 02553.

**phosphate fractionation**

nutrient, fish, resuspended sediment, mud bank, India; Indian Ocean; 12278.

**phosphate load**

eutrophication, lake water quality, turbidity, algal growth, water flea, water quality management, Netherlands, Volkerak/Zoom Lake; 09350.

**phosphate mine**

soil moisture, wetlands, hydrological budget, landscape reclamation, USA, Florida, Ft. Meade, Gardiner Mine; 06954.

**phosphate rock**

acid soil, calcium sink, liming, pH buffering, Malaysian; 07996. pasture soil, fertiliser, extractant, phosphorus, superphosphate, New Zealand; 02550.

**phosphate rock dissolution**

acid soil, phosphorus, calcium, leaching, Malaysia; 09166. proton supply, buffer capacity, calcium sink, UK; 05824.

**phosphate sorption**

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**phosphatic limestone**

phosphatic soil, parent material, dahlite, Tuvalu; Pacific, (Central); 05892.

**phosphatic sediment**

phosphorite, continental margin, Cretaceous (late), continental shelf, Atlantic, Georges Bank Basin; 01008.

**phosphatic soil**

parent material, dahlite, phosphatic limestone, Tuvalu; Pacific, (Central); 05892.

**phosphogenesis**

burial, continental margin, Monterey Formation, phosphorite, sink, organic carbon, USA, California; 01092.

**phosphogypsum**

soil reclamation, saline/sodic clay, soil amendment, clay dispersion, calcium, sodium, exchange complex, gypsum, 00446. trace element, soil pollution, fertiliser production, Russian Federation; 01403.

**Phosphoria Formation**

Permian, continental shelf, organic matter, oxide ratio, USA, Idaho, Montpelier Canyon; 08884.

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**phosphorous load**

water quality management, environmental policy, eutrophication, Netherlands, Utrecht, Loosdrecht Lakes; 03824.

**phosphorus**

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02513. mineralisation, lake, hypolimnion, nutrient regeneration, nitrogen, Japan, Lake Biwa; 00983. modelling, mass balance, stratification, turnover, sedimentation, lake, Finland, Haukivesi Lake; Pajanne Lake; 05412. modelling, pollutant, sediment-water interface, nutrient cycling, 12364. nitrite, temperature, nutrient, sediment-water interface, dredging, shellfish farming, France, Thau Lagoon; 03318. nitrogen mineralization, vegetation influence, chaparral, topographic aspect, ammonium, USA, Arizona; 10324. nitrogen, angling, surface water quality, ground-baiting, nutrient budget, Poland, Turawa Reservoir; 00525. nitrogen, chlorophyll *a*, limnology, DOC, trophic state, nutrient, eutrophication, USA, Alaska, Big Lake; 05970. nitrogen, diffuse loading, sedimentation, agricultural catchment, runoff water quality, nutrient loading, statistical model, Finland, Langelmavesi Lake; 02760. nitrogen, lake restoration, lake water quality, nutrient budget, eutrophication, Switzerland, Lugano Lake; 08150. nitrogen, nutrient source, nutrient enrichment, estuary, oxygen depletion, hypoxia, USA, Maryland, Chesapeake Bay; 08115. nitrogen, organic matter content, phytoplankton, zooplankton, lake water chemistry, artificial aeration, thermal destratification, oxygenation, Poland, Mutek Lake; 02705. nitrogen, oxygen, denitrification, loading rate, nutrient, sediment-water exchange, eutrophication, chlorophyll, estuary, Denmark, Roskilde Fjord; 03279. nitrogen, zooplankton, sedimentation rate, particulate organic matter, Norway; 00982. nutrient distribution, marsh soil, surface water quality, nitrogen, USA, Florida, Everglades; 10321. nutrient, primary productivity, biogeochemical cycle, fluvial sediment, soil, 05569. organic carbon, estuary, aggregation, sedimentation, iron, Sweden, Ore Estuary; 03803. organic carbon, nitrogen, carbon/nitrogen ratio, ash fertilisation, burning, exchangeable cation, fire, miombo woodland, Zambia; 00414. organophosphate, organic matter, humic acid, fulvic acid, humification, 01364. particulate matter, lake, bioassay, eutrophication, toxicity, bioavailability, phytoplankton, Switzerland, Geneva Lake; 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- phosphorus availability**  
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**pollen concentrate dating**

pollen analysis, lake sediment, reservoir effect, macrofossil, Sweden; 06447.

**pollen data**

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**pollen dispersal**

offshore island, spatial isolation, oceanic island, USA, New England, Block Island; 05336. palaeoecology, Argentina, Tierra del Fuego; Patagonia; 08654.

**pollen evidence**

Holocene, monsoon climate, climate change, sclerophyllous vegetation, China, Sichuan Province, Mianning County, Lake Shayema; 12548. proglacial lake, Goldthwait Sea, Mattawa phase, drainage, climate influence, Canada, Quebec; Ontario; 11371.

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**pollen history**

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**pollen migration**

radiocarbon dating, Holocene, Podzolic soil, dating, Russian Federation, Central Russian Plain; 00463.

**pollen profile**

Holocene, surface wash, geomorphology, Lake Iroquois, wavecut notch, paleosol, Canada, Ontario, Niagara Peninsula; 07942.

**pollen record**

*Araucaris* forest, Quaternary (late), climate change, Brazil; 07836. barley, abandoned river channel, elm, lime forest, botanical shadow, Neolithic settlement, carbonised seed, Belgium, Brabant, Wange; Overhespen; 05697. climatic sequence, Younger Dryas, Quaternary (late), vegetation dynamics, palaeoclimatology, Costa Rica, Talamanca Cordillera, La Chonta Bog; 05662. dune field lake, lake, Eucalyptus, precipitation, tropics, Holocene, Australia, Northern Territory, Groote Eylandt; 03516. Last Interglacial, permafrost, paludification, climate reconstruction, Canada, Yukon; 01241. medieval climatic optimum, Little Ice Age, peat, Holocene (late), vegetation history, environmental change, deuterium record, Ireland, Co.Kildare, Carbury Bog; 00308. model, pollen source area, lake sediment, peat bog, 10177. palaeoclimate reconstruction, sedimentology, precipitation, temperature, France, Vosges, La Grande Pile; 01257. palaeoecology, climate change, Quaternary (late), black spruce, grassland, Canada, Yukon Territory; 05687. paleosol formation, Pleistocene (late), vertebrate, fossil, radiocarbon age, USA, Alaska, Epiguruk; 12587. Pinedale Glaciation, migration history, radiocarbon age, postglacial vegetation, climate change, USA, Wyoming, Grand Teton National Park; Pinyon Peak Highlands; USA, Wyoming, Yellowstone National Park; 11373. Quaternary (late), vegetation history, palaeoecology, palaeoclimatology, subandean forest belt, Colombia, Eastern Cordillera, Laguna Pedro Palo; 12543. radiocarbon dating, Brorup Interstadial, Odderade Interstadial, charcoal, palaeovegetation, Weichselian, fire, Denmark; 02425. sea level, vegetation change, tropical rainforest, rainfall pattern, climate change, Asia, (Southeast); 00283. spruce/Jack pine forest, pitch pine pollen, late glacial, soil, Holocene, forest history, oak-white pine forest, USA, Massachusetts, Cape Cod, Owl Pond; 02420. Younger Dryas, deglaciation, marine record, climate, vegetation dynamics, Adriatic Sea; 01207.

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**pollen spore diagram**

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**pollen stratigraphy**

altitudinal zonation, Quaternary (late), refugium, vegetation history, montane forest, woodland, anthropogenic disturbance, Greece, Pindus Mountains, Gramousti Lake; Rezina Marsh; 00319. annual lamination, lake sediment, anthropogenic activity, Holocene, Ulmus decline, UK, England, Norfolk, Diss Mere; 12599. high resolution chronology, Last Glacial/interglacial, diatom data, environmental change, tephras, Iceland, Lake Torfadalsvatn; 00327. radiocarbon dating, Younger Dryas, Glacial (late), Holocene (early), lake sediment, Italy, Apennines, Val Parma, Prato Spilla; 04654.

**pollen succession**

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**pollen zone**

tree line, Quaternary (late), lacustrine pollen, vegetation change, Russian Federation, Beringia; 12612.

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**pollutant circulation**

sea breeze, land breeze, mesoscale model, air pollution, Israel; 02998.

**pollutant classification**

pollutant interaction, hydrogeology, groundwater pollution, groundwater protection, pollutant source, Yugoslavia; Slovenia; Croatia; 07062.

**pollutant composition**

ambient air monitoring, particulate, coal mining, India, Raniganj Coalfield; 01814.

**pollutant concentration**

corrosion rate, metal, rubber degradation, ozone, 09675. PCs, dispersion model, 08459. soil water content, hydraulic conductivity, dispersion coefficient, space-time correlation field, unsaturated flow, 12962.



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- pollutant deposition**  
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- pseudophysical model**  
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- pseudorange differential GPS**  
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- Pseudoschizaea**  
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- pseudovorticity**  
Q vector, three dimensional vector, forcing vector, ageostrophic, 01733.
- psi equation**  
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- pteropod**  
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- pteropod shell**  
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- PTFE cup**  
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- Ptolemy**  
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- public domain**  
GIS, 00824.
- public domain DEM**  
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- public health**  
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- public information law**  
digital database, information access, USA, Florida, Palm Beach; 05300.
- public land survey**  
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- public policy**  
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- public sector**  
administration, GIS, Greece; 03091.
- public service**  
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- public service delivery**  
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- puddled soil**  
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- puff diffusion model**  
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- puff model**  
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- Puget lobe ice sheet**  
ice marginal lake, bedrock topography, channel network, subglacial water, hydraulic reconstruction, USA, Washington, Puget Lowland; 12557.
- Pulju moraine**  
Sevetti moraine, till dispersal, ground moraine, drumlin, fluting, Rogén landform, Finland; 07862.
- pull-out box**  
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- pull-out resistance**  
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- pulp mill**  
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- pulp mill effluent**  
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- pulsation energy**  
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- pulse shape**  
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- pulsed-induction meter**  
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- pumice**  
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- pumiceous tuff**  
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- pump and treat**  
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- pump sampling**  
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- pump test**  
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- pumping effect**  
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- pumping optimisation**  
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- pumping rate**  
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- pumping system**  
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- pumping test**  
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- pumping well**  
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- puna**  
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- Pupilla muscorum**  
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- Porbeckian**  
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- Purdy**  
carbonate, sedimentary facies, reef, classification, association analysis, Great Bahama Bank; 12393.
- purgable organic halogen**  
halogen, river water quality, urban environment, water quality assessment, chemical contamination, total organic halogen, 06999.
- purging**  
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- purification pond**  
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- Parilactic Group**  
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- push moraine**  
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- pushbroom**  
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- pusztas**  
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- Putidoyl**  
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**pynocline**

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**pyramid raster structure**

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**pyranometer**

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**pyrene**

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**pyrite**

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**pyrite oxidation**

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**pyritisation**

calcium carbonate, dolomite, diagenesis, iron, carbonate, sulphate, anoxic sediment, reduction, USA, Texas, Baffin Bay; 03380. upwelling, black shale, organic matter, shale, Pennsylvanian, sulphur, oxygenation, USA; 04476.

**pyritization**

marine sediment, sulphate reduction, Neogene, organic matter, productivity, Oman Sea; 12375.

**pyrocatechol violet**

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**pyroclastic accumulation**

chronostratigraphy, Quaternary, maar, Cameroon, Lake Barombi Mbo; Barombi Mbo Lake; 01164.

**pyroclastic deposit**

surge deposit, turbidite, volcano, Italy, Sicilian Channel Fossa Cappellano; Sicilian Channel, Linosa; 06476.

**pyroclastic flow**

avalanche mobility, volcanic debris avalanche, fluidisation, runout distance, 00221. clay mineral, cumulic soil, soil chemical property, volcanic soil, Krakatau eruption, Indonesia, Krakatau Islands, Rakata; Sertung; Indonesia, Krakatau Islands, Panjang; 04818. convection, sedimentation, suspension, size distribution, turbidity current, 06426.

**pyroclastic flow deposit**

sedimentation, tuff, mudstone, Ordovician, vitric dust, volcanism, Lower Rhyolitic Tuff Formation, trace element, UK, Wales, Cwm Idwal; 02213.

**pyroclastic rock**

Archaeon, lapilli, Kraaipan Group, greenstone belt, banded iron formation, South Africa; 07698. classification, Cretaceous, haematite, pigment, Mifune Group, shale, Asia; 04443. weathering, allophane, tephra, paleosol, volcano, palaeoweathering, Italy, Potenza, Vulture Mountain Volcano; 04455.

**pyroclastic surge**

tephra, slope failure, morphology, emplacement, debris avalanche deposit, Mexico, Jocotitlan Volcano; 04558. tuff cone, Pleistocene, erosion, faulting, subsidence, hydrovolcanism, eruption, volcano, South Korea, Cheju Island, Ilchulbong Mount; 02175.

**pyrolysis**

carbon analysis system, air quality, thermal/optical reflectance, 13270. deposition, historical building, black crust, gypsum, petroleum biomarker, fungi, 11946. isomer, thermal maturation, petroleum, organic matter, coal, dimethylnaphthalene, 03373. soil, ionisation, humic acid, nitrogen, 07722.

**pyrolysis experiment**

Foraminifera, geology, amino acid stratigraphy, Atlantic, (North); Norwegian Sea; 03496.

**pyrolysis-field ionization**

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**pyroxene**

groundwater chemistry, plagioclase, andesitic glass, dissolution rate, Costa Rica, Poas Volcano; 11728. percolating waters, thermodynamic simulation, smectite, secondary mineral formation, weathering, 11415.

**pyrrhotite**

marcasite, pyrite, lacustrine rock, mineralogy, sulphide mineral, petrography, Palaeogene, Green River Formation, USA, Wyoming; Utah; USA, Colorado; 03349.

**pyruvic acid**

organic compound, fog, phase partitioning, formaldehyde, formic acid, acetic acid, Italy, Po Valley; 07331.

**Q vector**

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**QE II cyclone**

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**Quadrant Formation**

Pennsylvanian, carbonate, sandstone, cement, sorting, compaction, Tensleep Formation, quartz, USA, Wyoming; Montana; 05467.

**quadrat cartography**

census, geographical analysis, France, Rouen; 00849.

**quadrat mapping**

cartography, mailing, 04220.

**quadratic criteria**

groundwater flow, parameter estimation, aquifer model, Monte Carlo method, calibration, 00601.

**quadratic focus parameter**

SAR, autofocus, accuracy, 03027.

**quadratic gradient term**

injection well, diffusion equation, groundwater flow, pore pressure distribution, radial pressure distribution, 12995.

**quadrature mirror filter bank**

texture analysis, subband decomposition, classification, 08565.

**qualitative method**

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**quality accreditation**

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**quality assurance**

data quality, error propagation, GIS, 07429. European Community, geodetic survey, education, Europe; 03050. GIS database, database quality, 10899. quality accreditation, digital mapping, 07562.

**quality control**

effluent outfall, water quality management, estuary, coastal water, wind stress, shear dispersion, diffusion coefficient, 07094. forecast, numerical weather prediction, sea level pressure, background field, statistical interpolation, Australia; 07271. hydrographic data, bathymetric map, 07408. satellite, temperature sounding, 10610.

**quality information**

integration, spatial data, GIS, meta-information, 00827.

**quality management**

database, data capture, geodata, 01964.

**quality verification**

spatial data, GIS, data exchange, data quality, 10910.

**quantification**

erosion hazard, forest, soil erosion, GIS, 07941. geomorphological evolution, tropics, volcanic archipelago, hot spot, French Polynesia, Society Islands; Pacific, (South); 05616. maximum entropy, hydraulic modelling, radar data, precipitation measurement, 12842. water quality, chromatography, TLC, humic acid, aquatic humic acid, 05945.

**quantile estimator**

regional homogeneity test, regional index, flood analysis, extreme value distribution, probability weighted moment, sampling variance, 03746. sampling variance, flood analysis, extreme value distribution, probability weighted moment, L-moment, 03747.

**quantitative analysis**

morphology, canyon, continental slope, bathymetry, slope failure, Portugal, Nazare Canyon; Atlantic, (North); 05655. multiple toxicity data, water quality analysis, toxicity, synergism, antagonism, heavy metals, 05943. solution flute, karst, Rillenkarrren, Cretaceous limestone, evolution model, dissolution process, dolomitic limestone, Spain, Valencia, La Safor; 04574.

**quantitative experiment**

sandstone, marble, granite, weathering, stone deterioration, atmospheric pollution, acid deposition, 00362.

**quantitative hydrology**

historical hydrology, hydrology, Scandinavia; 09241.

**quantitative method**

land evaluation, qualitative method, Netherlands; 04320. water treatment facility, gas exchange, estuary, CFCs, USA, New York, Hudson Estuary; 0512.

**quantitative model**

landform development, fluvial erosion, variogram, fractal geometry, topography, USA, Arizona; 00182. snowline, climate, topography, Andes; 01194.

**quantity-intensity relationship**

crop rotation, ammonium, Haploquoll, Hapludoll, USA, Iowa; 05867. eutrophication, phosphorus sorption, Histosol, USA, Florida, Everglades; 06867. Hapludalf, Fragludalf, buffering capacity, potassium, ammonium, USA, Kentucky; 06868.



**Quantulus LS spectrometer**

tephrochronology, volcanology, liquid scintillation spectrometry, radio-carbon dating, tephra deposit, New Zealand; 02367.

**quarry**

landform replication, rock slope, limestone, restoration blasting, scree, UK, England, Derbyshire, Buxton, Pitstead Quarry; 12476. waste tip, anthropogenic landscape change, gravel pit, sewage disposal, dam, vineyard terrace, Slovakia, Bratislava; 06626.

**quarrying**

resource use, karst, commercial logging, land use, anthropogenic impact, Belize; 12482. subsidence, beach, erosion, coastline, progradation, delta, Italy; 00041.

**quartz**

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**quartz arenite**

Namurian, Laurasia, Carboniferous, delta, palaeocurrent, sandstone, barrier island, sedimentation, bedform, Harthope Ganister, UK, England, Pennines; 00084.

**quartz dissolution**

leaching, lateritisation, land surface levelling, planation surface, kaolinite, Africa, (East); (South); 03442.

**quartz fiber filters**

desert environment, particle sampler, Teflon filter, PM-10 sampler, 08276.

**quartz pebble**

uranium, gold, provenance, oxygen isotope, Proterozoic, Archaean, conglomerate, mineralisation, Canada, ; South Africa, Witwatersrand; 01078.

**quartz sandstone**

moraine sequence, helium, surface exposure, chronology, cosmogenic helium-3, Antarctica, Dry Valleys, Taylor Glacier; 07813.

**quartz sandstone boulder**

moraine, exposure age, chronology, glacier advance, Antarctica, Victoria Land, Arena Valley, Taylor Glacier; 07874.

**quartzarenite**

Cambrian, packing, burial depth, sorting, porosity, consolidation, cementation, silica, pressure solution, fabric, compaction, Egypt, Sinai, Gebel Araba-Qabeliat; 02120. contourite, Ordovician, turbidite, palaeogeography, Lachland Fold Belt, Australia; 08848. Neoproterozoic, Shaler Group, Kuujua Formation, bedform, braided stream deposit, Canada, Northwest Territories, Victoria Island, Minto Inlet; 12329.

**quartzite**

Cretaceous, palaeoenvironment, submarine fan, gravel, clast morphology, river, conglomerate, beach, USA, California; 00008. ferruginous quartzite, Sandur Schist Belt, Archaean Dharwar Supergroup, sedimentary structure, India, Karnataka; 06434. sand, aeolianite, coquinaite, fossil, fauna, Algoa Group, sandstone, conglomerate, coquina, Salnova Formation, South Africa, Swartkops River; 00169. slope evolution, Norway, Rondana Mountains; UK, Scotland, Highlands, Beinn Eighe; 01173. trace element, provenance, Proterozoic, REE, Libby Creek Group, USA, Wyoming; 12359.

**quartzite surface**

inscription legibility, rock weathering rate, marble tombstone, erosion estimation, acid rain, USA; 12670.

**quartzite weathering**

hanging wall, geophysics, Stuoragurra, postglacial fault, fault structure, magnetic anomaly, seismic data, GPR, Norway, Finnmark; 02318.

**quartzitic sandstone**

tourism, Zhangshiyuan landform, wed shaped erosion, valley, China; 07803.

**quasi analytic model**

cloud condensation nuclei, optical parameter, cumulus, ice free cumulus, droplet, 07031.

**quasi biennial oscillation**

El Nino/Southern Oscillation, ozone, interannual fluctuation, Dobson records, total ozone, 01823. equator, middle atmosphere, 03992. equator, Rossby wave, Kelvin wave, stratosphere, three dimensional simulation, 01727. equatorial wave, stratosphere, vertical resolution, 04007. ozone change, Nimbus-7 TOMS, stratosphere, interannual time scale, 06217. ozone, stratosphere, extratropics, 11845. seasonal, hurricane, long range prediction, predictive signal, rainfall, Atlantic; 08391. solar activity, solar 11 yr cycle, extratropical stratosphere, stratosphere, 02885. solar cycle, quasi decadal modulation, stratospheric temperature, North Pole; 11914. Southern Oscillation, rainfall, South Africa; 11812. Southern Oscillation, tropical atmosphere, principal oscillation pattern, spectral analysis, 04011. stratosphere, Eliassen-Palm flux, eddy momentum flux, GCM, 09558. strato-

sphere, statistical analysis, 10.7cm solar flux, lower tropospheric climate, sunspot cycle, Monte Carlo technique, 04062. stratosphere, stratospheric circulation, aerosol data, 11846. stratospheric cooling, temperature, Arctic, North Pole; 01783. stratospheric warming, model, warming event, 03990. stratospheric wind, El Nino/Southern Oscillation, 01725. tropics, extra-tropics, intraseasonal variability, 11847. tropics, wind, momentum flux, mesosphere, stratosphere, Peru, Jicamarca; 09562. troposphere/stratosphere, atmospheric response, solar proton event, sunspot cycle, 03930. varve, Fourier spectrum, riverine varve, subarctic, Sweden, Angermanalven river; 05643. winter, stratospheric circulation, 09581.

**quasi-cyclic change**

lightning incidence (1930-1990), UK, England; Wales; 05043.

**quasi decadal modulation**

stratospheric temperature, quasi biennial oscillation, solar cycle, North Pole; 11914.

**quasi Lagrangian model**

forecast track error, hurricane, 13236.

**quasi-monotone scheme**

advection scheme, semi-Lagrangian scheme, discontinuity, shock, 13127.

**quasi Newton approximation**

finite element model, pumping optimisation, groundwater remediation, differential dynamic programming, 13018.

**quasi periodic oscillation**

gravity waves, radiation fog, fog, observation, 00724.

**quasi resonance**

midlatitude, low frequency oscillation, barotropic, wave motion, 02880.

**quasi specular scattering**

surface topography, radar backscattering, lava flow, surface roughness, 12090.

**quasi stationary eddy**

two-layer model, Rossby wave, meridional confinement, amplification, 07212.

**quasigeostrophic diagnosis**

ageostrophic circulation, baroclinic disturbance, 00718.

**quasigeostrophic flow**

optimal growth rate, eady wave, Green's model, initial value problem, 07214.

**quasigeostrophic model**

baroclinic adjustment, two-layer channel model, 07213. blocking anticyclone, cyclogenesis, storm track, teleconnection pattern, primitive equation model, Northern Hemisphere; 03981. Geosat altimeter, sea surface height, ocean circulation, 07521.

**quasigeostrophic turbulence**

three layer model, shear, vertical structure, 07217.

**quasigeostrophism**

isentropic coordinates, potential vorticity, 13155. nonquasigeostrophism, vertical motion, model simulation, rapidly intensifying cyclone, marine cyclone, omega equation, 03994.

**quasiperiodic**

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- Characeae, Poland, Krosno; 06755. lake level, fossil stromatolite, isotope data, radiocarbon, U-Th chronology, chronology, palaeohydrology, Tanzania, Manyara Lake Basin; 04629. lake sediment, sediment chronology, correlation, marine sedimentation, glacial/interglacial cycle, Japan, Biwa Lake; 10134. marine glacial, estuary, depositional/erosional record, bedrock trough, seismostratigraphy, Canada, Quebec, St. Lawrence Estuary; 04636. 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06741. archaeology, river terrace, France, Val d'Oise; 00199. basalt, weathering crust, geochronological dating, chemical weathering rate, China, Guangdong, Hainan Island; 11419. basement, volcano, volcanogenic deposit, abyssal zone, Pliocene, Tyrrhenian Sea; 06492. biosiliceous sedimentation, opal content, freshening event, cyclical sedimentation, water column overturn, ODP Leg 127/128, Pliocene (late), Japan Sea, Oki Ridge, ODP Site 798; 04610. calcite, flysch, cave, spring, Poland, Krynica, Tylicz; 09912. calcrite, composite stratotype, Jifarah Formation, aeolian deposit, fluvial deposit, Libya, Jifarah Plain; 05595. carbonate platform, ooze, calcite, continental slope, Mediterranean Sea, Balearic Margin; 12304. cement, carbonate, aeolianite, lithification, vadose diagenesis, 11116. chronostratigraphy, ravinement surface, barrier spit, Holocene, lagoon, seismic stratigraphy, coastal drainage pattern, USA, Virginia, Delmarva Peninsula; 05718. climate change, ice age, Europe; 02350. climate cycle, monsoon, loess, aeolian aggradation, fluvial erosion, China, Loess Plateau; 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05746. coastal morphology, progradation, reverse faulting, marine terrace, tectonics, dune field, USA, California, Santa Maria Valley; 03459. coastal stratigraphy, Quaternary (late), coastal shelf, inner shelf, stratigraphy, fluvial sequence, Tertiary, USA, Florida, Apalachicola River Delta; 05720. continental shelf, carbon isotope, Bering Sea; Chukchi Sea; 10019. contourite, ice rafted sediment, carbonate, Atlantic, (North); 08798. dating, speleothem, palaeoclimatology, sea level, 07897. deglaciation, moraine, glacial lake, meltwater channel, Finland, Lapland; 02408. deglaciation, shoreline displacement, Weichselian interstadial deposit, Eemian, Finland, Lapland, Rovaniemi; 02409. delta, heavy minerals, sediment transport, magnetic stratigraphy, Cainozoic, North Sea; 07639. deposition rate, carbonate, carbon cycle, carbon dioxide, coral reef, Pacific; 01053. disconformity, palaeoecology, reflector, sand bank, Eocene, North Sea, Flemish Banks, Middelkerke Bank; 06475. displacement, palaeoearthquake, fault zone, China, Ningxia, Zhongwei County; 12428. dredging, seabed sampling, sea level change, marine aggregate, North Sea, English Channel; UK; 06709. engineering site data, glacial lithofacies, loess, foundation failure, Europe, (West); China; 06687. environmental change, anthropogenic impact, 03487. fault, uplift, geomorphology, neotectonics, mountain range, piedmont, Pliocene (late), China, Xinjiang Uygur Zizhiqu, Kashgar-Khunjerab Traverse; 05612. flow till, glacial sediment, Poland, Lower Silesia, Parowa; 01233. fluorescence, alluvial sediment, clay, sand, fulvic acid, Serbia, Belgrade, Novi Beograd; 01106. gas chromatography, molecular stratigraphy, methodology, Atlantic, ODP Site 658; 08998. gastropod, piedmont alluvium, tephra layer, river incision, climate change, aminostratigraphy, USA, New Mexico, Espanola Basin; 10160. geochronology, ESR analysis, zircon, fission track analysis, 02366. geology, Canada, Northwest Territories, Victoria Island, Wollaston Peninsula; 03519. geomorphological research, seismic reflection profiling, Canada, Quebec, Shawville; 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moss, geothermal water, organism, hard water effect, Iceland, Markarfljót; 08855.

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oak dendrochronology, Holocene, pine dendrochronology, Germany; Ireland; 11315. wiggle matching, Groningen laboratory, computer program, 11317.

**radiocarbon chronology**

climate change, Stansbury oscillation, Bonneville shoreline, Provo shoreline, lake basin, USA, Great Basin, Bonneville Lake; 09040.

**radiocarbon content**

marine life, reservoir correction, radiocarbon dating, geographic variation, Antarctica, Shetland Islands; South Georgia; Antarctica, Antarctic Peninsula; 07830. tree ring, Maunder minimum, solar activity, carbon-14, 04047.

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**reconstituted soil**

pore pressure, shear strength, stiffness, mechanical property, 00230.

**reconstruction**

digital conic, normal position, conic, 08570. Quaternary (late), sea level curve, seismic record, shoreline, Pleistocene (late), Holocene, erosional surface, sea level fluctuation rate, Mediterranean Sea, Mersin Bay; 04669. transformation, bundle formulation, SPOT, three dimensional stereomodel, photogrammetry, 03044. two dimensional transformation, projective transformation, Finland, Helsinki; 08564. wind field, consistency condition, limited area, 13180.

**record analysis**

greenhouse effect, temperature, precipitation, climate change, northern latitude, 01782.

**record completeness**

radiocarbon dating, AMS, Weichselian (late), Eemian Interglacial, marine stratigraphy, Svalbard, Spitsbergen; 11366.

**record low**

global ozone, TOMS, 1992, ozone depletion, 10814.

**recovery**

subalpine stream, catastrophic flood, snowmelt, bedload transport, channel change, stream response, USA, Colorado, Rocky Mountain National Park, Fall River; Roaring River, Lawn Lake; 12405.

**recreation**

anthropogenic impact, seawater quality, Russian Federation, Sochi; Black Sea; 01498. ecological landscape types, ecological anomalies, landscape map, disease, Russian Federation; 00903. flood control, water management, river regulation, water quality, Hungary, Danube River, Tolna County; 02772. floodplain, river corridor management, UK; 06079. management, beach morphology, environmental change, anthropogenic impact, fjord, estuary, 09930. river management, flood protection, water quality management, agricultural management, irrigation, Hungary, Csongrad County, Tisza River; 02771.

**recreation quality**

streamflow, water resource management, critical flow, 01620.

**recreation use**

consumptive use, instream flow, water resource management, water use, USA, Montana, Big Hole River; Bitterroot River; 04990.

**recreation value**

wetlands, economic benefit, water allocation, water resource management, USA, California, San Joaquin Valley; 06081.

**recrystallization**

cement, pressure solution, micrite, burial depth, lamellae, diagenesis, limestone, Devonian, Helderberg Grp, Becraft Formation, USA, New York; 00095. geochemistry, unconformity, burial, Ordovician, Knox Group, dolomite, stabilisation, USA, Appalachians; 05488. iron oxide, sedimentary structure, kaolinite, Cretaceous, Tertiary, USA, Georgia; 10037. porcellaneous foraminifera, magnesium, calcite, Holocene, foraminifera, Bahamas, Schooner Cays; 09913. porewater, aragonite, dissolution, Foraminifera, Holocene/Pleistocene, biotoid, Bermuda; Bahamas, Schooner Cays; 00050. sandstone, cement, organic matter, precipitation, siderite, fluid chemistry, oxidation, Kuparuk Formation, USA, Alaska, Kuparuk River Field; 03374. texture, magnesium, dolomite, geochemistry, neomorphism, 00093.

**rectangular channel**

bedload transport, bed roughness, sediment transport, 11593.

**rectangular harmonic analysis**

crustal magnetic anomaly, MAGSAT satellite, China; 07381.

**reclorite**

Opalinus Shale, vermiculite, analcime, pH, Switzerland, Terri Mountain; 11217. rehydration, dehydration, electrostatic effect, hexagonal hole, interlayer cation, 06586.

**recultivation**

heathland, soil profile development, afforestation, nutrient status, Denmark, Jutland; 06877.

**recurrence interval**

discharge, threshold, flood power, extreme event, USA, Illinois, Galena River; Wisconsin, Galena River; 07761. earthquake activity, palaeoseismology, fault zone, Holocene, USA, Utah, Wasatch Front; 08931. ice shelf, ice island, disintegration, dynamics, drift, Canada, Ellesmere Island; Arctic; 04690. landslide, Hurricane Hugo, rainfall intensity, aerial photography, denudation rate, Puerto Rico; 07802. semiarid environment, kimenatic routing scheme, flashflood, flood routing, runoff model, hillslope, summer storm, USA, Colorado; 04844. slip rate, channel morphology, earthquake, Holocene, fault displacement, China, Shandong Province, Yishi Fault; 11270.

**recursive filtering**

non recursive filtering, filtering, 08562.

**recurvature**

storm surge, tropical cyclone, Bangladesh; 08322.

**recycle rate**

tracer, residence time, groundwater quality, leachate, landfill, sewage treatment, 08194.

**recycling**

bloom, algae, dissolved organic nitrogen, nutrient, fertiliser, Sweden, Kattegat, Laholm Bay; 08814. eutrophication, nutrient, benthic flux, phytoplankton, organic matter, Adriatic Sea; Italy, Po River Delta; 07668. geochemical cycle, iron, diagenesis, redox cycle, Precambrian, oxygen, banded iron formation, Archaean, Proterozoic, igneous rock, weathering, atmosphere, 02243. lake, biodegradation, seasonal change, bacteria, sediment-water interface, nutrient recycling, Switzerland, Lake Lugano; 06452. organic matter, anoxic degradation, oxygen, chlorophyll, USA, Long Island Sound; 06574. organic matter, carbon isotope, nitrogen, alkanes, lake sediment, USA, Great Lakes, Lake Michigan; 07598. sedimentation, Miocene, turbidite, sandstone, quartz, Italy, Northern Apennines, Monte Cervarola; 05472. weathering, uplift, erosion, Cretaceous, Palaeocene, pebble, conglomerate, provenance, USA, Utah; 06505.

**red bed**

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- basin, Canada, Nova Scotia, Fundy Bay; 04432. source rock, sedimentation, rock chemistry, Palaeogene, Japan, Northern Kyushu; 01082. volcanism, Milankovitch, alluvial fan, arkose, Jurassic, Triassic, USA, Connecticut; Massachusetts; 05502.
- red bed formation**  
bauxite, weathered surface, aridity, continental weathering, groundwater chemistry, acid groundwater, alkaline/hypersaline system, laterisation, Australia; 05766.
- red brown earth**  
tensile strength, clay dispersion, crop rotation, aggregate strength, wetting/drying cycle, 01359.
- red-brown earth**  
gypsum, Alfisol, ploughing, soil amendment, soil physical property, hardsetting soil, Australia, New South Wales, Macquarie Valley; 08025. homogenised soil, aggregation, wetting/drying cycle, root growth, minirhizotron, black earth, 00408. irrigation, mulching, hardsetting soil, soil water adsorption, vegetable bed, 08028.
- red deer**  
Bayes' theorem, GIS, UK, Scotland, Grampian; 00821.
- red earth soil**  
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- red/far red ratio**  
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- red limestone**  
ferromanganese crust, phosphate, Jurassic, stromatolite, Frutexites, Germany, Northern Calcareous Alps; Austria, Northern Calcareous Alps; 12353.
- Red Sandstone Group**  
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- red spruce**  
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- red tide**  
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- red yellow soil**  
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- redeposition**  
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- redox boundary**  
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- redox chemistry**  
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- redox condition**  
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- redox cycle**  
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- redox electrode**  
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- redox front**  
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- redox potential**  
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- redox process**  
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- rill erosion**  
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- rip current**  
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- riparian environment**  
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- riparian forest**  
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- riparian management**  
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software, workflow, photogrammetry, Intergraph Image Station, 01895.

**risk**

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**risk analysis**

flood risk, flood protection, ecological stability, flood management, finite element model, Germany, Rastatter Rheinniederung; Rhine River; 08252. hydrological forecasting system, entropy theory, equipment failure, probabilistic analysis, 03743. infinite slope stability model, LISA, documentation, computer program, stability, natural slope, failure probability, 04565. open channel flow, channel characteristics, stochasticity, 12900. reliability analysis, stochastic hydrology, channel flow, groundwater flow, sediment transport, stochastic hydraulics, 12831. risk reduction, water contamination, soil water contamination, industrial pollutant, 08205.

**risk assessment**

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**risk extrapolation**

joint chemical action, water quality, toxicity, chemical interaction, 06977.

**risk management**

decision making, low flow augmentation, irrigation, water management, reservoir operation, dynamic programming, France; 00653. decision support system, flood forecasting, real-time forecasting, Italy, Reno River; 08087. flood control, expert system, decision support system, 08244.

**risk reduction**

flood prevention, risk assessment, flood management, cost benefit analysis, flood risk, India, Bombay; 08253. water contamination, soil water contamination, industrial pollutant, risk analysis, 08205.

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Wurm, aeolian morphogenesis, periglacial, circular depression, aeolian erosion, France, Mediterranean, Golfe du Lion; 04685.

**Riss Glacial**

stratified debris deposit, rock slide, rock fall, frost action, colluvial layer, palaeoclimate, pediment, South Africa, Magaliesberg, Hornsnek; 04630.

**Riss glaciation**

Quaternary gravel, channel, outwash, river terrace, subdrift surface, Germany, Bavaria; 07885.

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breeze circulation, boundary layer, Brazil, Amazon River; 07193. catchment size, erosion, Holocene, sediment yield, lake sediment, Canada, British Columbia; 08736. channel, hydraulics, bar formation, 11035. climate change, landscape development, temperature rise, Weichselian, late glacial, sediment, Netherlands; 02282. climate, ice cover, Hungary; 09635. conglomerate, beach, quartzite, Cretaceous, palaeoenvironment, submarine fan, gravel, clast morphology, USA, California; 00008. dredging, hydrographic survey, New Zealand, South Island, Otago, Clutha River; 13442. fine grained sediment, suspended sediment, sediment source, drowned valley, tidal range, current, bottom sediment, China, Fujian Province, Shacheng Bay; 04376. fine sediment, silt, bedform, water level, 04330. flood, Quaternary, sedimentary structure, longitudinal profile, beach, fan, rejuvenation, terrace, Namibia, Skeleton Coast, Uniab River; 07591. lake, bottom fauna, Daphnia magna, metal, toxicity, mining, contamination, sediment quality, Sweden, Kolbacksan River; 03267. lake, water movement, anthropogenic impact, ecosystem model, fluid dynamics, hydroclimate, freshwater ecology, 02606. morphological change, sinuous channel, Last Glacial Maximum, suspended load, Pleistocene (late), Australia; 11250. ocean, glacial period, germanium-silicon ratio, river flux, dissolved silica, diatom, 10146. remote sensing, 11004. resource, decision support, drainage basin, USA, Montana, Blackfoot River; 04293. sediment transport, monitoring network, sampling frequency, Sweden; 10446. stratification, particle size, subpavement, roughness, gravel bed stream, sampling, channel bed, 04512. suspended matter, wet season, dry season, organic matter, estuary, China, Huanghe River; 00033. suspended sediment, trace element, erosion, sediment load, China, Huanghe River; Yellow River; 04348. tidal channel, estuary, clay mineral, India, Vellar River; 08895. tidal current, sedimentation, delta front, monsoon, sediment budget, Papua New Guinea, Gulf of Papua, Fly River Delta; 08768. trace metals,

pollution, waste, fish, Arabian Sea; Pakistan, Karachi; 08818. water resource management, network evaluation, monitoring programme, sediment transport, Canada; 10593.

**river-aquifer interface**

chemical fate, DO concentration, mass conservation equation, contaminant transport, estuary, surface water quality, Streeter-Phelps equations, BOD, 04882.

**river-aquifer transfer**

pollutant degradation, water purification, bank filtration, France, Lyon, Rhone River, Grand Gravier Island; 00620.

**river bank**

bank erosion, noncohesive bank, cohesive bank, bank stability, 08092. channel geometry, river sinuosity, bedload, overbank sediment, Poland, Western Carpathians, Raba River; 11072. datalogger, deposition, PEEP sensor, erosion monitoring, automation, 01118.

**river bank erosion**

photo-electronic erosion pin, PEEP, sediment supply, UK, Wales, Powys, Severn River; 10229.

**river basin**

erosion, sediment transport, measurement technique, sampling strategy, monitoring network, 10387. flow direction, groundwater flow, stream-aquifer system, 07031. mixing, heavy metals, estuarine sediment, copper, pollution, Spain, Galicia, Arousa Ria; Ulla River/Estuary; 06498. mountain region, delivery ratio, denudation, erosion, sediment yield, 08734. residence time, flood mitigation, environmental impact, wetlands, Borneo, Negara River Basin; 06951. river regulation, water resource management, arid land, Africa; 04992. runoff, hydrological cycle, erosion, sedimentation, anthropogenic impact, Russian Federation, Altai, Ob River; 08817. sediment discharge, runoff, farming, deforestation, drainage basin, fluvial sediment, sediment load, precipitation, climate, 03258. spatial organisation, scaling property, Scheidegger's stochastic model, multifractal formalism, USA; 03425. stable isotope, bank storage, USA, California, Truckee River; Nevada, Truckee River; 01460. tree ring chronology, streamflow history, drought, USA, (Western); 05906.

**river basin development**

sediment deposition, sediment transport, measurement programme, sediment yield, instrumentation, China; 10444.

**river basin hydrology**

groundwater recharge, river flow, rainfall/runoff model, basement complex, Malawi; Zimbabwe; 02605.

**river basin integrity**

environmental conservation, water quality, river basin management, ecological impact, water transfer, 09438.

**river basin management**

ecological impact, water transfer, river basin integrity, environmental conservation, water quality, 09438. legislation, regulation, water quality, health, policy, USA; 06097. soil erosion, river modification, geomorphology, land use effect, river regulation, river system management, 04985.

**river basin morphology**

Pliocene, geomorphological evolution, Quaternary, Atlantic, Cape Verde, Santo Antao Island, Ribiera das Patas; 00200.

**river basin network**

drainage basin, entropy, morphological analysis, Italy; 11248.

**river bed**

glacier, plastic deformation, till, basal shear stress, USA, Alaska, Columbia Glacier; 07927. ice jam, sediment transport, frazil ice, scouring, deposition, China, Yellow River, Hequ Reach; 07765. outfall lowering, channel degradation, Laplace transform, USA, Missouri, Missouri River; Iowa, West Tarkio Creek; 04528. seepage, clogging, siltation, hydraulic conductivity, infiltration, Switzerland, Langeten River; 03738. temporal variability, roughness measurement, gravel bed, grain roughness, form roughness, Germany, Schmiedlaine; USA, Montana, Squaw Creek; 10428.

**river bed chemistry**

sediment composition, temporal variability, particle size composition, discharge, Canada, Alberta, Pembina River; 06986.

**river bed erosion**

reservoir construction, groundwater resource, groundwater recharge, Slovakia, Bratislava, Danube River; 10582.

**river bed profile**

fluvial terrace, late glacial, Holocene, valley formation, alluviation, Europe, Baltic; 00188.

**river bed sediment**

tractive force, alluvial river, longitudinal profile, channel slope, grain size, Japan, Kanto Plain; 12411.

**river bend**

bank erosion, bedload transport, fluid drag force, channel, 00972. ice thickness, bed topography, ice jam, river ice, 09410. suspended sediment, sediment transport, bed levelling, mathematical model, bed topography, 00499.

**river capture**

fluvial deposit, texture, longitudinal profile, source, Spain, Segovia, Valverde del Majano; 09884. river terrace, correlation, palaeomeander, meander cutoff, Belgium, Liege; Maastricht; Belgium, Meuse River; 07900. windgap, uplift, valley net, valley, Slovakia, Little Carpathians; 06625.

**river catchment**

flood forecasting, soil water storage map, GIS, remote sensing, hydrology, 12111.

**river channel**

channel engineering, regional study, cartographical method, 09281. debris, woodland, environmental management, logging, organic matter budget, UK, England, Hampshire, New Forest; 01619. flood, bedform, discharge, sediment transport, erosion, gravel, dune, USA, Washington, Toutle River, North Fork; 00023. landscape system, river management, channel sensitivity, 11247. meander, channel morphometry, cryolithic zone, Russian Federation, Yamal Peninsula; 05589. morphogenesis, channel form, Slovakia, Danube River, Chorvatske Rameno; 06617.

**river channel change**

space-time substitution, channel management, urbanisation, UK, England, Hampshire, Monks Brook; 03430.



**river channel management**

riverine plant species, environmental gradient, GIS, multivariate ecological analysis, UK, England, Essex, Blackwater River; 12137.

**river channel stability**

flood, climate change, land degradation, evapotranspiration, soil balance, silt erosion, water balance, Mediterranean; 10235.

**river confluence**

flood, transport capacity, erosion, runoff, bedload transport, Germany, Danuse River; Isar River; 11069.

**river conservation**

catchment management, land use, forest, riverine environment, UK; 00672. project planning, feasibility study, stream damage, rehabilitation, Germany, Oberkochen, Gutenbach Stream; Stuttgart, Speltach Stream; Germany, Rhine Valley, Kammbach Stream; 00671.

**river corridor**

flood, pollution, water level decline, catchment planning, river protection, riverine environment, corridor environment, UK, Thames River; 00673.

**river corridor management**

recreation, floodplain, UK; 06079.

**river cross section**

channel erosion, erosion monitoring, bed degradation, gauging station, sediment transport, Germany, Rhine River; 10060.

**river delta**

crested shaped lake, delta, Pleistocene, neotectonics, remote sensing, India, Tamil Nadu; 02308. water level, wetland lake, nitrogen, flood zone, river water quality, phosphorus, Romania, Danube River Delta; 12942.

**river deposit**

stochastic model, sandstone, floodplain, channel, bedload, 08898.

**river design**

stabilisation, landscape management, ecological inventory, vegetation, river regulation, Germany, Bavaria; 06102.

**river discharge**

areal precipitation, evapotranspiration, rainfall/runoff, water balance, Belgium; China; Burma; 01461. channel flow, Chezy method, 01469. channel flow, current meter, discharge, depth integration, 01473. coordination index, flood forecasting, algorithm, rainfall, discharge, 04845. detergent, fertiliser, nutrient export, nitrogen load, phosphorus load, river water quality, Italy, Adige River; Po River; 06996. estuary, salinity variation, buffering agent, axial salinity distribution, USA, Delaware Estuary; 02654. flood, microtidal environment, freshwater, delta formation, Greece; 12260. frequency curve, water level, censored data, ice cover, cross-sectional area, ice dam, exceedance probability, 02627. Holocene, stratification, bottom water, basin floor, oxygen, pollutant, USA, California, Continental Borderland, Santa Monica Basin; Santa Barbara Basin; USA, California, Continental Borderland, San Pedro Basin; 05443. hydrology, watershed, urbanisation, Spain, Catalonia; 01453. moving boat method, flow velocity, discharge measurement, Russian Federation, Neva River; 12886. plume dynamics, thermal observation, surface circulation, surface temperature, Ireland, Shannon River; 09831. river reliability, ecological stability, river water quality, probability theory, 12938. river source, drainage area, China, Changjiang River; Dam River; China, Tuotuo River; 09270. river water quality, liquid-solid phase ratio, phosphorus load, nutrient transport, Italy, Po River; 06997. sediment transport, sediment yield, suspended sediment, erosion, Africa, (North), Maghreb; 06944. temporal variation, inorganic nitrogen, nitrogen concentration, river water quality, algae, water treatment, seasonality, UK, England, Thames River; 05954. water balance, fluvial transport, climate change, land use effect, soil moisture, evapotranspiration, runoff, South America, Amazon River; Tocantins River; 09234. water level, river gauging, flow forecasting, time series analysis, Austria, Vienna, Danube River; 11566. water quality, tide effect, tidal estuary, salinity, estuary, Germany, Niedersachsen, Ems River Estuary; 04879.

**river diversion**

anthropogenic impact, coastal landform, sedimentation, delta, China, Jiangsu Province, Yellow River; 09078.

**river ecology**

littoral zone, flow regulation, river regulation, channel change, salinisation, Australia, South Australia, Murray River; 13044. simulation modelling, lake regulation, channellisation, river restoration, flow regulation, USA, Florida, Kissimmee River; 12931.

**river flooding**

ice jam, flood forecast, Canada, Northwest Territories, Hay River; 03866.

**river flow**

dambo hydrology, runoff, flood, Zimbabwe; 01462. energy dissipation, thermodynamic entropy, entropy, channel network, runoff, 03740. fan facies, gravel, debris deposit, stratification, braided river, alluvial fan, India, Rishikesh, Ganga River; 02127. flow regime, climate change, regime classification, 03737. rainfall/runoff model, basement complex, river basin hydrology, groundwater recharge, Malawi; Zimbabwe; 02605. water quality, GIS, discharge consent, abstraction licence, water resources, 12144. water resources, runoff, climate change, flow regime, global warming, UK; 02600.

**river flow data**

rainfall forecasting, flood management, weather radar, rainfall measurement, Europe; 07535.

**river flow process**

peak flow, instantaneous flow, flood, flood volume, crossing property, Italy; 04862.

**river flow series**

Bayesian estimation, periodicity, time series analysis, hydrological time series, 12879. variable coefficient model, hydrological time series, time series analysis, flexible least squares, method, 12878.

**river flux**

dissolved silica, diatom, river, ocean, glacial period, germanium-silicon ratio, 10146.

**river formation**

valley formation, fluvial erosion, 01119.

**river gauging**

flow forecasting, time series analysis, river discharge, water level, Austria, Vienna, Danube River; 11566.

**river geochemistry**

salinity, COD, DO, water temperature, hardness, pH, alkali capacity, acid capacity, China, Changjiang River; 04895.

**river gravel**

river morphology, solid geology, drift geology, geological map, UK, England, Hampshire, Bournemouth; 00198.

**river ice**

borehole jack indenter, ice mechanics, ice testing, 10566. data collection, historical flood data, probability analysis, ice jam, flood analysis, Canada, Northwest Territories, Hay River; 09411. ice jam, numerical model, seepage flow, grounding condition, 13028. lake ice, field technique, ice density, ice porosity, spatial variability, 10563. river bend, ice thickness, bed topography, ice jam, 09410.

**river incision**

channel erosion, bedrock, 08914. climate change, aminostratigraphy, Quaternary, gastropod, piedmont alluvium, tephra layer, USA, New Mexico, Espanola Basin; 10160. Pleistocene, erosion rate, glacioisostatic process, Russian Federation, Protva River; 08917.

**river inflow**

lake, sedimentation, phosphorus, Poland, Krutynia River; Kujno Lake; 11094. watershed, storm, suspended sediment, lake, sedimentation rate, water depth, bottom sediment, Japan, Biwa Lake; 03271.

**river input**

resuspension, sedimentation, estuary, suspended matter, plume, Sweden, Ore Estuary; 02148. sediment load, atmospheric input, heavy metals, dust, China Sea; Yellow Sea; 07588.

**river-lake system**

drift, surface water quality, organic carbon, Poland, Masuria, Krutynia River; 05934.

**river length**

sinuosity index, fractal geometry, Australia, South-East; 03736.

**river management**

channel sensitivity, river channel, landscape system, 11247. flood protection, water quality management, agricultural management, irrigation, recreation, Hungary, Csongrad County, Tisza River; 02771. land use, floodplain, river regulation, vegetation, Netherlands, Rhine River; 03875. reservoir, bedload, sampler, sediment transport, China, Yangtze River; 08908. river use, riverine environment, rehabilitation, conservation, water resource management, 00670. riverine environment, catchment management, river protection, resource management, Canada, Ontario; 00674. water resource management, hydrology, geomorphology, river research, science, public policy, USA, (West); 02764.

**river meander**

palaeomeander, precipitation, Holocene, runoff, evaporation, retrodiction, palaeodischarge, Poland, Proсна River; 02283.

**river mechanics**

fluid mechanics, thermodynamics, energy dissipation, fluid flow, 03762.

**river modification**

geomorphology, land use effect, river regulation, river system management, river basin management, soil erosion, 04985.

**river morphology**

nonlinear model, runoff concentration, river network, China; 10405. particle size distribution, river water quality, channel geometry, fish habitat, sediment, Canada, Ontario; 10486. solid geology, drift geology, geological map, river gravel, UK, England, Hampshire, Bournemouth; 00198. valley incision, USA, Oregon, Coast Range; 08916.

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#### riverine lake

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#### riverine plain

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#### road drain

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#### road seeds

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#### road surface

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#### road temperature

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**rock barrier**

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**rock bedding**

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**rock block map**

relief map, fracture pattern, megalens, lineament, earthquake, uplift, crustal fracture, Sweden; 04552.

**rock breakdown**

altitudinal variation, surface temperature, periglacial, frost shattering, field measurement, freeze-thaw cycle, Nepal, Himalayas, Langtang Valley; 07925.

**rock chemistry**

Palaeogene, red bed, source rock, sedimentation, Japan, Northern Kyushu; 01082.

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**rock cliff**

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rock basin, glaciotectionic ridge, radiocarbon, glacial landform, deglaciation, U-shaped valley, giant flute, Russian Federation, Siberia, Tiksi; 06732.

**rock dust**

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**rock fall**

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**rock fracture**

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**rock fracture system**

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**rock fragment cover**

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**rock glacier**

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**rock groove**

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**rock instability**

limestone, remote sensing, borehole, USA, Missouri, Saint Louis; 02015.

**rock mass strength**

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**rock material**

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**rock matrix**

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**rock moisture**

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**rock phosphate**

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**rock salt**

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**rock shelter**

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**rock slide**

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#### salinity risk

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#### salt deposition

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**salt marsh soil**

soil classification, soil evolution, Spodosol, tidal inundation, spodic horizon, Haplaquod, forest soil, USA, South Carolina, North Inlet; 04748.

**salt mixing**

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**salt precipitation**

groundwater level, swelling, soil settlement, desert soil, Middle East; 02509.

**salt roller**

subsidence, Messinian, fault, Pliocene, salt structure, Mediterranean, Valencia Trough; Provencal Basin; 09963.

**salt structure**

salt roller, subsidence, Messinian, fault, Pliocene, Mediterranean, Valencia Trough; Provencal Basin; 09963.

**salt tolerance**

shellfish farming, bacteria, Salmonella, sunlight, France, Toulon; English Channel, Morlaix; 06501.

**salt tracing**

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**salt water ice**

sediment transport, frazil ice, anchor ice, sediment laden ice, 09406.

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agrochemical, pollution, water quality, Ukraine; Black Sea; 01571. baseflow reduction, groundwater use, environmental impact, land subsidence, groundwater law, drawdown, USA, Texas; 06063. delta, hydrogeology, estuarine tract, groundwater development, water resources, groundwater management, India; 02766. dissolution, boron, total dissolved solids, soil salinisation, groundwater quality, Spain, Almeria, Andarax River; 07064. estuary, hydraulic jump, intrusion, horizontal boundary, contraction wave, 02652. saline leaching, hydrogeology, electrical sounding, palaeogeomorphology, groundwater contamination, Vietnam, Ho Chi Minh City; 13012.

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**salt weathering**

coastal bench, basaltic tuff, wave wash, wetting, USA, Hawaii, Oahu, Hanauma Bay; 10202. sand dune, desert, arid land, model, 06621. simulation, single immersion, diurnal cycle, desert, concrete, Israel, Negev; Egypt; 12673.

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barchan, environmental impact, economic impact, aeolian process, sand encroachment, dust storm, Kuwait; 08972. concentration, mass flux, particle, aeolian suspension, wind, 05215. granule, ripple, dome dune, sedimentation, sand, dune field, Namibia, Swakopmund; 00012. sand transport, collision model, wind, suspension, 07571. sand, sediment transport, bedload transport, Langrangian model, particle size, 11041. sandy sediment, triangular diagram, traction, 11222. shear stress, dune, wind flow, shear velocity, sand transport, Oman; 11062. splash saltation transport, soil detachment, Saltiphone, 03588. suspension, roughness, soil surface, wind erosion, wind erosion, 12214. suspension, sublimation, prairie blowing snow model, snow transport, Canada; 11752. turbulence, bedload transport, grain trajectory, microtopography, 00959. wind tunnel, aeolian sand, sand dune, 08725. wind, sand transport, Bagnold, 11043. wind, sand, landform, geomorphology, shear velocity, roughness, 03242.

**Saltiphone**

saltation, splash saltation transport, soil detachment, 03588.

**saltwork**

cyanobacteria, laminae, stromatolite, microlaminated sediment, bacterial mat, France, Camargue, Salin de Giraud; 02162.

**Salyut space station**

manned space station, geological feature, space camera, 05328.

**Salyut space station manned**

surface feature, geomorphological complex, 05326.

**samarium isotope**

isotope tracer, vehicle emissions, residential emission, USA, Virginia, Roanoke; 01849.

**Sambe-Kisuki pumice fall**

Katanishi Formation, Obaradai Formation, Shimosueyoshi Formation, volcanic ash, drift pumice, tephra, Aso-4 ash, Japan, Honshu, Akita Prefecture, Oga Peninsula; 00324.

**sample preparation**

illite, smectite, artifact, 06607. microfossil, hemipelagic sediment, lamina, sedimentary structure, microanalysis, Japan Sea; 04517. organic nitrate, alcohol, species identification, dinitrogen pentoxide, 11976. particle size, herbicide, pollutant, sedimentation, field flow fractionation, particulate matter, adsorption, 02274. strength, stiffness, Laval sampler, pore pressure, soil sample, laboratory test, UK, Scotland, Strathclyde, Bothkennar; 00232.

**sample pretreatment**

carbon-14, mass spectrometry, U-Th age, coral, 07820. radiocarbon dating, AMS, weathered bone, contamination, 07815.

**sample splitter**

nitrate discharge, drainage tile, land drainage, 06017.

**sample storage**

magnetic susceptibility, lake sediment, diagenesis, sulphide, 07750. shear stress, pollutant, heavy metals, sorption, adsorption, desorption, resuspension, partitioning, USA, Detroit River, Trenton Channel; 02276.

**sample volume**

error, radar, raingauge, rainfall, 01433.

**sampler**

acoustic sensor, erosion, sediment discharge, Japan, Toyama Prefecture, Jyogangji River; 08909. fine grained sediment, lacustrine sediment, vibracoring, ice, boxcoring, palaeoenvironment, 04513. sediment transport, river management, reservoir, bedload, China, Yangtze River; 08908. soil water, porous cup, ceramic cup, PTFE cup, 00397.

**sampler comparison**

fog, collection efficiency, fog water, Italy, Po Valley; 07125.

**sampler siting**

wind field, optimal network design, tracer experiment, 11823.

**sampling bias**

adsorption, tracer study, solute transport, groundwater flow, heterogeneous aquifer, dispersion, 08185.

**sampling density**

streamflow prediction, rainfall assessment, Thiessen polygon, hydrograph, raingauge, Canada, Quebec; 10404.

**sampling design**

infiltration rate, agricultural water management, rice paddy, puddled soil, 04920. tree size, interception loss, throughfall, stemflow, spatial variability, 04836. withdrawal design, hydraulic head distribution, groundwater management, groundwater supply model, uncertainty, 08186.

**sampling device**

lake water quality, littoral region, thermal regime, chemical regime, acidification, snowmelt, water quality sampling, USA, New York, Adirondacks, Woods Lake; 09352.

**sampling efficiency**

gravitational settling, wall impaction, gravity effect angle, aerosol sampling, inlet, yaw, pitch, 03902.

**sampling equipment**

pumping test, Waterra inertial pump, conductivity profile, aquifer, Uganda; 01552. wet deposition, surface retention, heavy metals, funnel surface, 05897.

**sampling error**

satellite overpass, multiple satellites, rainfall estimation, 10744. short data record, extreme wind, wind prediction, USA; 05129. space sensor, ground network, raingauge, precipitation, 10742. trace metals, soil solution sampler, metal adsorption, porous cup sampler, 04744. vertical flux, potential temperature, moisture, aircraft, 06160.



**sampling frequency**

climate statistics, weather forecast, 09637. river, sediment transport, monitoring network, Sweden; 10446.

**sampling method**

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COSSY, artificial pebble, lift force, drag force, shear stress, 10429.

**sediment facies**

delta, GPR, lacustrine environment, 03216.

**sediment flow**

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**sediment flux**

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**sediment formation**

vegetation, lake level, kettle lake, USA, Minnesota; 01245.

**sediment gas**

biogeochemistry, billabong, methane, Australia; 00984.

**sediment geochemistry**

ephemeral stream, arid zone, streamwater chemistry, bedrock lithology, Precambrian terrain, Israel; 09327.

**sediment graph**

weathering, bedload, channel, arid zone, suspended sediment, basin model, India, Luni River; 03260.

**sediment heat flux**

lake stratification, shallow lake, thermal stratification, 02638.

**sediment incipient motion**

fuzzy mathematics, roughness, friction, 11037.

**sediment input**

active tectonism, gravity process, Pliocene/Quaternary, margin growth, sea level fluctuation, Mediterranean Sea; Alboran Sea; 02322. geomorphology, conceptual model, neotectonic stress, fluvial process, debris flow, Italy, Calabria, Buonamico Basin; 10071. lake turbidity, suspension, morphometry, glacial ice, USA, Montana, Glacier National Park; 05408.

**sediment laden ice**

salt water ice, sediment transport, frazil ice, anchor ice, 09406.

**sediment load**

alluvial river, concavity, channel pattern, China, Huanghuaihai Plain; 01129. anthropogenic impact, delta, coastal erosion, flood, fluvial sediment, Egypt, Nile Delta; 11157. atmospheric input, heavy metals, dust, river input, China Sea; Yellow Sea; 07588. ecosystem disruption, flooding, river water quality,

habitat degradation, river regulation, Asia; 09346. floodwater storage, floodplain, stream channel, urbanisation, humid tropical basin, channel change, discharge, Nigeria, Benin City, Ikpoba River; 02284. flow averaging, suspended sediment, sediment rating curve, Canada, New Brunswick, Kennebecasis River; 12889. iron, manganese, seafloor, turbidity current, basin floor, Canada, British Columbia, Knight Inlet; 03272. marker, valley fill, Holocene, tidal current, estuary, France, Gironde Estuary; 09899. precipitation, climate, river basin, sediment discharge, runoff, farming, deforestation, drainage basin, fluvial sediment, 03258. profundal sediment, bulk density, organic matter, sedimentation, trophic status, Canada, Canadian Shield; 00978. rating relationship, discharge-flow relationship, suspended sediment, Iran, Dez River; 10440. river, suspended sediment, trace element, erosion, China, Huanghe River; Yellow River; 04348. sediment monitoring, flow meter, datalogger, erosion, 10438. sedimentation, erosion, map, sediment yield, South Africa; 10389. snow cover, hydrological model, areal snow cover, streamflow, 10561. streamflow, sediment transport, land use practice, water resource management, rainfall/runoff, mountain catchment, Thailand, Chao Phraya Basin; 04970. suspended sediment, deforestation, logging, streamwater chemistry, streamflow, Malaysia, Sabah, Ulu Segama; 00635. suspended sediment, sediment transport, 05915. trace element concentration, suspended sediment, mass transport, automatic sampler, 10439. tundra stream, suspended sediment, stream discharge, USA, Alaska, Brooks Range, Kuparuk River; 03870. turbidimeter, reservoir deposition, sedimentation model, erosion, flushing, Costa Rica, Cachi Reservoir; 00026. turbidity, water management, water resources, runoff, flood, Romania; 09433. velocity distribution, turbulent flow, Von Karman, suspended load, 00958. water pollution, desertification, soil management, soil loss, mining area, China, Yellow River, Shenfu Dongsheng; 10242.

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**sediment loss**

lake, porosity, gravity coring, freeze coring, sampling, Canada, Ontario, Experimental Lakes Area; 01111.

**sediment mixture**

hydraulic sorting, transport model, conceptual model, bedload transport, 03781.

**sediment mobility**

tidal flat, bedform, bioturbation, tidal channel, wave, Germany, Wadden Sea, Martens Plate; 06463.

**sediment monitoring**

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**sediment motion**

alluvial channel pattern, pipeflow resistance coefficient, stochastic hydraulics, hydraulic engineering, 12892. bedform, radioactive marker, tracer, flume, sand wave, alluvial channel, 00002.

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**sediment nonuniformity**

sediment stratification, unsteady flow, scour, bridge pier, 03778.

**sediment origin**

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**sediment outflow**

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**sediment oxygen demand**

water quality, storm, sewer, pollutant, sewer overflow, bedload, UK, England, Roch River; 04403.

**sediment pellet**

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**sediment pollutant**

silver, beryllium, molybdenum, anthropogenic impact, waste, Czech Republic, Bohemia, Elbe River; 12326.

**sediment pollution**

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**sediment production**

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**sediment profile imagery**

muddy deposit, burrow, macrofauna, reworking, France, Mediterranean, Banyuls Bay; 05519.

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- contamination, bioaccumulation, toxicity, 04398. lead, toxicity, contamination, anthropogenic input, fish, shellfish, USA, New Jersey, Newark Bay; 03315. river, lake, bottom fauna, *Daphnia magna*, metal, toxicity, mining, contamination, Sweden, Kolbaksan River; 03267. speciation, irrigation water, pollution, organic matter, trace metals, Philippines; 05466. surface sediment, chlorinated biphenyl, pollution, PAHs, North Sea, Humber Plume; 09941.
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- sediment recycling**  
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- sediment resuspension**  
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- sediment runoff**  
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- sediment size**  
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- sediment stability**  
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- sediment storage**  
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**shell morphology**

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**shelter forest**

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**shipwreck**

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- silica dissolution**  
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**silicate rocks**

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**silicate sheet**

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chloride, imogolite, NMR spectroscopy, isomorphic substitution, adsorption, intercalation, allophane, 05565. chloride, salinisation, recharge process, isotope study, groundwater quality, geochemistry, South Africa, Eastern Cape Province; 07059. chlorine, anthropogenic impact, surface water chemistry, irrigation, Yugoslavia, Vojvodina, Danube River; Tisa River; Yugoslavia, Vojvodina, Pannonian Plain; 02658. emission, wind erosion, Dust Bowl, calcium, magnesium, potassium, USA; 07333. exchange complex, gypsum, phosphogypsum, soil reclamation, saline/sodic clay, soil amendment, clay dispersion, calcium, 00446. heterogeneous nucleation, meteor, stratosphere, aerosol layer, mass spectrometer, ion, 06213. marine atmosphere, scavenging ratio, sulphate, nitrate, methanesulphonate, Atlantic, (North); 08446. potassium, Permian/Triassic, feldspar, diagenesis, overgrowth, twinning, polymorph, cement, UK, Scotland, Morayshire, Elgin; 05524. soil drainage, saline groundwater, chlorine, loess, USA, Louisiana, Macon Ridge; 03708. strontium, Al Aziziyah Formation, trace element, Triassic, quartz, halite, calcite, Africa, (North), Jabal Nafusah, Gharyan; 05527. sulphate, magnesium sulphate, evaporite, efflorescence, Spain, Navarra, Peralta; 00995.

**sodium absorption ratio**

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**sodium adsorption rate**

groundwater quality, irrigated land, salinity, cropping practice, electrical conductivity, 09424.

**sodium adsorption ratio**

electrical conductivity, arid soil, soil salinity, saline soil, sodic soil, USA, Idaho; Australia; 11473. infiltration rate, salt displacement, sodicity, salinity, crop yield, irrigation, leaching, electrical conductivity, sandy loam, 00434. saline soil, sodic soil, soil reclamation, kinetic model, 02486. salt concentration, sodicity, phosphate, Haploboroll, Chernozemic soil, Canada, Saskatchewan; 01379. screening procedure, sodium hazard, USA, (West); 09153.

**sodium bromide**

Podzolic soil, leaching, exchangeable ion, centrifugation, 01352.

**sodium chloride**

cyclothem, brine, eustasy, seawater, organic matter, sulphate, potassium, France, Alsace, Mulhouse; 05490. lake, salt lake, regeneration, Turkmenistan, Kuuli Lake; 06946.

**sodium concentration**

aerosol measurement, half year lag, particle transport, snow surface, Antarctica, South Pole; 11943.

**sodium contaminated soil**

soil reclamation, tree growth, soil spatial variability, soil sodicity, India, Indo-Gangetic Plains; 11472.

**sodium dibutylphosphate**

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**sodium hazard**

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**sodium layer**

lidar data, mesopause temperature, temperature structure, USA, Illinois, Urbana; 09454.

**sodium nebula**

magnetosphere, nebula, Jupiter; 02032.

**sodium profile**

nitric acid trihydrate, polar stratospheric cloud, lidar observation, stratosphere, mesosphere, aerosol, temperature, Antarctica, Amundsen-Scott Station; 09601.

**sodium saturation**

soil testing, calcareous soil, sodic soil, extractant, phosphate, 06844.

**sodium tracer**

long range transport, oil fire smoke, Kuwait; 10829.

**soft clay**

Laval sampler, compressibility, one dimensional consolidation, consolidation test, UK, Scotland, Strathclyde, Bothkennar; 00228. Letham beds, Claret beds, engineering geology, Carse clay, UK, Scotland, Strathclyde, Bothkennar; 00225. permeability, shear strength, site investigation, UK, Scotland, Strathclyde, Bothkennar; 00231. test site, site investigation, in situ testing, UK, Scotland, Strathclyde, Bothkennar; 00224.

**soft rock**

hill terrain, erosion control measure, earthflow, gully erosion, biological erosion control, New Zealand; 12695.

**soft sediment**

loose sediment, sampling, subsampling, cyst, dinoflagellate, freeze coring, Twin 80, lake sediment, microfossil, 03405. macrophagy, organism, particle size, species diversity, deposit feeder, 06545. ODP Leg 128, gravitational tectonics, subsidence, collision, dewatering, slump folding, deformation, Japan Sea; 05515. radiotracer, smearing, bottom sediment, coring, gravity core, 03409. sediment deformation, Pigeon Point Formation, debris flow, bedding, Cretaceous, USA, California; 11048.

**soft sediment deformation**

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**soft sensitive clay**

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**soft threshold**

membership value, fuzzy set, 01914.

**soft water**

water quality, alkalinity regulation, USA, Florida; 01487.

**software**

computing, 01940. generalisation, cartographic generalisation, 09779. meteorological data, automated data collection, data collection, data processing, 06107. MS Windows, Apple Macintosh, graphic design, 00857. multimedia, GIS, 01942. PC image processing, GIS, 00839. soil, slope stability, limit equilibrium method, geotechnical software, 06645. workflow, photogrammetry, Intergraph Image Station, RISC, 01895.

**software design**

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**software development**

CASE, GIS, 10909.

**software interface**

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**software library**

SDTS, standard, FIPS 123, 08594.

**software package**

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**Sognefjord Formation**

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**SOI phase**

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- acid rain, acid soil, organic matter-aluminium complex, China; 00419. cation leaching, anion leaching, aluminium, acid soil, ion composition, 07976. crop rotation, liming, duplex soil, Australia; 10345. decomposition, soil degradation, cellulose decomposition, bioenergetic indicator, 12774. extractant, forest soil, element pool, exchangeable cation, metals, C horizon, Sweden; 05887. forest soil, acid deposition, Regional Soil Acidification Model, Netherlands; 12726. forest soil, sulphur, nitrogen, Scandinavia; 01412. mineral weathering, sulphur stockpile, major element, weathering, extreme acidity, mineralogy, Canada, Alberta; 00447. model calibration, model validation, soil water dynamics, forest ecosystem, transpiration, 04975. nitrification, acid neutralisation, pasture soil, urea affected soil, 12805. peat, lake acidification, seep, humic substance, Norway, Lake Skjervatjern; 08002. peat, sulphur cycling, sulphate reduction, HUMEX peat, Norway, Lake Skjervatjern; 08017. streamwater quality, atmospheric deposition, MAGIC, acidification, wet deposition, dry deposition, UK, England, Loughborough, Beacon Hill; 08067. sulphur stockpile, element redistribution, extreme acidity, oxidation, trace element, Canada, Alberta; 00448. volcanic oil, sulphur compound, cation exchange capacity, acid deposition, exchangeable cation, soil chemical property, Japan, Honshu, Ozorezan, Oniishi; 09176. watershed export, weathering, cation loss, atmospheric deposition, strontium isotope data, USA, New York, Adirondack Mountains; 11482.
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- soil adsorption coefficient**  
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- soil age**  
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- soil alkalisation**  
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- soil alkalinity**  
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- soil amelioration**  
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- soil-aquifer treatment**  
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- soil atmosphere**  
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- soil-atmosphere model**  
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- soil binding**  
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- soil biological activity**  
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- soil biology**  
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- soil biota**  
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- soil bulk density**  
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- soil carbon**  
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- soil carbonate**  
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- soil character coding**  
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- soil characteristic**  
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- soil chemical characteristic**  
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- compaction, Alfisol, legume, Nigeria; 04786. trace gas, carbon dioxide, organic soil, geochemistry, decomposition, peatland, 00372. Ultisol, mulching, tropical soil, soil physical property, Nigeria, Port Harcourt; 05852. vegetation influence, *Quercus serrata*, forest management, soil physical property, Japan, Honshu, Musashino Terrace; 12779. volcanic soil, Krakatau eruption, pyroclastic flow, clay mineral, cumuloic soil, Indonesia, Krakatau Islands, Rakata; Sertung; Indonesia, Krakatau Islands, Panjang; 04818.
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- soil circulation**  
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data exchange, database structure, GIS analysis, 03100. GIS, data collection, accuracy, 00826. GIS, data exchange, data quality, quality verification, 10910. GIS, heathland, point source data, 13407. GIS, meta-information, quality information, integration, 00827. hail, lightning, temporal data, USA; 01649. interpolation, three dimensional data, contouring, 10942. landscape, Ordnance Survey, 13360. map, catalogue, standard, 03105. relational model, spatial data modelling, 07433. standardisation, 13344.
- spatial data analysis**  
GIS, 05280. groundwater model, GIS, decision support system, groundwater management, 12158.
- spatial data handling**  
environmental research, GIS, 05350. three dimensional database, object oriented database, 05277.
- spatial data manipulation**  
spatial analysis, GIS, geographical science, 12043.
- spatial data modelling**  
IRDS standard, metadata, geographic information management, 12187. spatial data, relational model, 07433.
- spatial data processing**  
data integrity, seamless database, 09763.
- spatial data structure**  
run-length-code, GIS, 07432.
- spatial data transfer standard**  
spatial entity, 05321.
- spatial database**  
accuracy, positional error, positional accuracy, 12046. database standard, GIS, data exchange, digital road map, 07435. DBMS, 05289. GIS, error propagation, error indices, 00829. GIS, error, 01965. LIS, land, data integration, Canada, Alberta; 11029.
- spatial diffusion**  
education, 04170.
- spatial distribution**  
moorland burning, hazard mapping, catchment management, moorland ditching, water discolouration, UK, England, North Yorkshire, Upper Nidd Valley; 00537. regional variation, USLE, RUSLE, soil erosion, agricultural productivity, Croatia; 10236. rock glacier, aerial photograph, lithology, fracturing density, statistical analysis, Spain, Pyrenees; 07913. stratus cloud, holography, inter droplet distance, 13204. temporal distribution, daily rainfall, space-time model, atmospheric circulation, climate change, Germany, Ruhr River; 00470. temporal variability, solar radiation, Spain; 11794. woody debris, channel process, land use, debris dam, UK, England, Hampshire, Lymington Basin; 13031.
- spatial diversity**  
Flandrian, vegetation history, Mesolithic, Ulmus decline, peat inception, UK, England, Yorkshire, North York Moors, North Gill; 12598.
- spatial drought pattern**  
drought, teleconnection, USA, Utah; 10651.
- spatial entity**  
spatial data transfer standard, 05321.
- spatial estimation technique**  
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- spatial filter**  
aeromagnetic data, radiometric data, India, Tamilnadu, Samalpatti; 13315. reclassification, noise grid-cell, 07419. tracking, phase-only filter, 06290.
- spatial frequency**  
ice keel, convergence, land barrier, contour mapping, ice draft, roughness, Arctic Ocean; 06706.
- spatial heterogeneity**  
ecology, GIS, landscape, 13390. soil water flow, grid scale, unsaturated zone, parameter estimation, solute transport, 11686.
- spatial index**  
multiscale surface model, Delaunay pyramid, generalisation, 07454.
- spatial information**  
classification, spatial spectral variability, spectral information, 10884. developing countries, information management, mapping, 10941. GIS, geomatics, spatial analysis, data structure, 05276. mapping agency, 10946. spectral information, multispectral imaging, supermultispectral imaging, 13333. standard, data exchange, infrastructure, 03104.
- spatial information system**  
remote sensing, government agency, digital system, USA; 03034. territory, 00819.
- spatial interferometer**  
Doppler radar, precipitation, 08275.
- spatial interpolation**  
kriging, soil sodicity, soil salinity, saline soil, electrical conductivity, sodium absorption ratio, Canada, Alberta; 12729.



**spatial isolation**

oceanic island, pollen dispersal, offshore island, USA, New England, Block Island; 03536.

**spatial mapping**

erosion cell, GIS, arid climate, semiarid climate, watershed, 05771.

**spatial model**

crustal movement, sea level trend, extreme sea level, UK; 05724. database development, geological survey, map, 01941. image analysis, GIS, data structure, Vovonoi model, 03101.

**spatial modelling**

GILS, object oriented database, 05284. GIS, snow, alpine area, USA, Colorado; 08693.

**spatial moments analysis**

advection, tracer study, groundwater flow, dispersion, heterogeneous aquifer, 08183.

**spatial movement pattern**

earthflow, vegetation, New Zealand, North Island; 08960.

**spatial multicollinearity**

multiquadratic equation, hyperboloid surface, aerial precipitation, precipitation estimation, rangeau weighting, surface fitting equation, South Africa, Natal, Slangspruit; 09248.

**spatial network model**

channel length, basin topology, fat fractal analysis, fractal scaling, drainage network, 04525.

**spatial object**

digital landscape model, Germany, North Rhine-Westphalia; 09783. geographical database, 05292. terrain model, fractal geometry, entity relationship, 03099.

**spatial organisation**

scaling property, Scheidegger's stochastic model, multifractal formalism, river basin, USA; 03425.

**spatial pattern**

alpine environment, denudation rate, snow accumulation, nivation, geochemical denudation, USA, Colorado, Front Range, Green Lakes Valley; 06800. autocorrelation, Fourier transform, fabric analysis, 12039. barium, bottom water, productivity, aluminosilicate, terrigenous origin, seafloor, burial rate, accumulation rate, deep sea sediment, 00144. climate, tree growth, subtropical forest, dendroclimatology, Argentina; 11920. drought, USA; 05136. temporal pattern, synchronous flood response, global flooding, 11572. trend, moisture, Palmer Index, drought, USA, (Southeast); 11915. water uptake, forest, soil water dynamics, throughfall, 08068. winter regime, water table fluctuation, groundwater regime, snowmelt, Poland; 09375.

**spatial process**

causal variables, principal estimator pattern, predictability, hydrological process, 12834.

**spatial query language**

topological spatial operator, topological spatial relation, 12049.

**spatial rainfall**

orthogonal wavelet, rainfall fluctuation, scaling property, 10748.

**spatial random field**

spatial estimation technique, sampling network, network design, geostatistical method, 06905.

**spatial redistribution**

soil erosion, soil detachment, USLE, sediment delivery ratio, caesium-137, Canada, Quebec, Orleans Island; 10224.

**spatial regression**

autocorrelation, 04169.

**spatial relation**

exchange format, geographical data model, data type, 00834.

**spatial representation**

precipitation data, sulphate, geostatistical modelling, environmental data, acid rain, 09251.

**spatial resolution**

AVHRR, GOES, Landsat TM, algorithm, cloud cover, 03126. radiometric resolution, reduction, information loss, 06285. temporal resolution, precipitation forecast, TOVS, Hungary; 09792. variogram, MSS imagery, 10894. vegetation, parameter quantification, 06379.

**spatial scale**

basin response, morphological constraint, functional constraint, rainfall/runoff, semiarid basin, ephemeral stream, scale transference, 04852. land use effect, climate change, SHE, distributed model, calibration, validation, environmental impact, UK; 00490. runoff plot, theoretical model, temporal variation, erosion, sediment yield, spatial variability, Canada, Alberta; 10223. temperature anomaly, monthly mean temperature data, Japan; 10652.

**spatial search**

algorithm, sphere, 01985.

**spatial spectra**

data display, resolution, truncation, ECMWF analysis, 10600. wave disturbance, stereophotogrammetry, 07362.

**spatial spectral variability**

spectral information, spatial information, classification, 10884.

**spatial statistics**

GIS, point pattern analysis, 12038. GIS, spatial autocorrelation, 05283. SAR, sea ice, image speckle, system noise, 07410. slope exposure map, GIS, 08581. spatial analysis, GIS, 05281.

**spatial structure**

atlas, agrarian structures, Europe, (East); 07448. interannual variability, summer convection, Africa, (Southern); Indian Ocean; 02819. turbulence, strong wind, wind speed, boundary layer, 05088. ultra-low frequency variability, atmospheric circulation model, variability, 07219.

**spatial system**

decision support, water resources, 08663.

**spatial-temporal function**

empirical orthogonal function, geopotential field, Northern Hemisphere; 01742.

**spatial trend**

mine drainage, statistical method, regional water quality, surface water quality, water quality monitoring, Canada, Ontario; 08125.

**spatial unit**

GIS, land cover, mapping, 05282. land information, land registration, legal ownership, 05384.

**spatial variability**

acidification, emission control, critical load, sulphur, nitrogen, uncertainty, Finland; 10495. antecedent soil water content, soil water content, rainfall/runoff model, 09263. catchment scale, geostatistical method, soil water content, temporal variability, 09363. dispersivity, macrodispersivity, tracer test, hydraulic conductivity, solute transport, groundwater flow, diffusion, USA, Massachusetts, Cape Cod; 02727. dissolved solids, solute concentration, runoff water quality, electrical conductivity, temporal variability, Poland, Carpathian Mountains, Stara Rzeki Basin; 10475. erosion, temporal variability, sediment transport, runoff, cultivated land, Canada, Quebec; 09423. evaporation, bare soil, bulk density, particle size, soil water evaporation, soil hydraulic property, 05987. evaporation, remote sensing, heat flux, surface temperature, energy flux, FIFE, 08071. evapotranspiration, TM, NOAA, Denmark, Jutland, Viborg; 06381. heavy metals, vertical distribution, horizontal distribution, mixing, seawater quality, temporal variability, North Sea, German Bight; 08120. heterogeneous aquifer, hydraulic conductivity, groundwater flow, solute transport, dispersion, geostatistical analysis, USA, Mississippi, Columbus Air Force Base; 08184. hydraulic conductivity, soil liner, landfill, probability distribution, compacted soil, North America; 12964. kerosen, archaeobacteria, hypersaline basin, organic matter, glycerol, ether, diphtanil glycerol ether, Gulf of Mexico, Orca Basin; 03388. Luvisol, soil erosion, soil physical property, Poland, Lublin Upland; 12768. methane emission, tundra, summer, local variability, Arctic; 05177. microwave, rainfall measurement system, precipitation, USA, Florida; 10738. moorland pool, sulphur cycling, sediment, surface water chemistry, Netherlands; 12919. near-infrared spectrum, spectral band, image data, 01922. ombrogenous mire, precipitation chemistry, bog, water chemistry, UK; Ireland; 08108. petrophysical parameter, stochastic model, stratigraphy, Jurassic, Tarbert Formation, fluid flow, reservoir, North Sea, Gullfaks Field; 00167. pumping test, drawdown, storativity, transmissivity, groundwater, nonuniformity, 08190. rainfall, catchment scale, water balance model, evaporation, potential evaporation, USA, Kansas, Konza Prairie, King's Creek; 08072. rainfall, Spain, Mallorca; Mediterranean; 08300. river ice, lake ice, field technique, ice density, ice porosity, 10563. river network, streamflow, potential energy, network morphology, entropy theory, 07759. river water quality, water quality standard, stratification, Egypt, Nile River; 06990. sampling design, tree size, interception loss, throughfall, stemflow, 04836. saturated hydraulic conductivity, pore size distribution, stochastic modelling, solute flux, unsaturated zone, soil water flow, 11683. seasonal variability, grassland, spectral reflectance, albedo, surface flux, radiometer, 06130. seasonal variation, water quality trend, monitoring, river water quality, statistical method, 08141. snow distribution, water balance, snow cover, Russian Federation, Kursk Region; 07074. solute transport, advection/dispersion equation, soil water flow, dispersion parameter, 11682. spatial scale, runoff plot, theoretical model, temporal variation, erosion, sediment yield, Canada, Alberta; 10223. statistical modelling, undrained strength, computer program, 08945. stochastic modelling, groundwater flow, solute transport, 04936. streamflow generation, temporal variability, bedrock structure, karst terrain, USA, Tennessee, Oak Ridge, Walker Branch Watershed; 10400. temperature distribution, bare soil, soil temperature, Poland, Lublin, Felin; 05802. temporal variability, flux, carbon dioxide, sensible heat, latent heat, 06157. temporal variability, forest, steppe, soil moisture, moisture reserve field, Russian Federation, Russian Plain; 07083. temporal variability, river water quality, analysis of variance, principal components analysis, France, Garonne River; 04897. temporal variability, shear stress, flow measurement, mountain stream, maximum likelihood method, Fließwasser-stamm-tisch hemispheres, Germany; 08089. throughfall chemistry, tropical rainforest, chemical flux, sampling network, Brazil, Amazonia; 00479. transmissivity, permeability, soil water flow, hydraulic conductivity, Slovakia, Zitny Ostrov; 10513. trend estimation, statistics, autocovariance, soil property, 12433. urban environment, precipitation chemistry, acid deposition, UK, England, Manchester; 06911. variogram analysis, polynomial regression, kriging, geostatistical estimation, groundwater level, Nepal, Bagmati River Basin; 12987. water vapour, turbulent transfer, boundary layer, 06145.

**spatial variation**

anthropogenic input, heavy metals, sewage, USA, California, Los Angeles; 05456. Holocene, solar radiation, summer monsoon, pollen data, climate change, USA, Wyoming, Rocky Mountains, Yellowstone Region; 10181. hydraulic conductivity, slug test, groundwater flow, aquifer, 01566. palaeoclimate, El Nino/Southern Oscillation, carbon-14, tree ring, 10774. river water chemistry, ammonia nitrogen, salinity, phosphate, alkalinity, pH, silica, seasonal variation, Nigeria, Niger Delta, Bonny River; 09340. soil permeability, infiltration, slope geometry, 08949. soil profile, drainage, transpiration, root water uptake, soil water dynamics, forest ecosystem, 04976. soil water content, topography, drying trend, remote sensing, microwave sensing, USA, Kansas, Konza Prairie; 04922. sulphate, snow chemistry, acid deposition, solute concentration, China, Tien Shan; 06033. surface, temperature variation, trend analysis, South Africa; 00755.

**spatio-temporal indexing**

temporal analysis, topological structure, four dimensional GIS, 00835.

**spatio-temporal map**

animated maps, cartographic communication, 07459.

**speciation**

aluminium toxicity, hydrolysis, water chemistry, Hong Kong; 05930. atrazine, gamma HCH, colloid, pesticide, estuary water quality, partitioning, 11606. calcite, buffer capacity, heavy metals, river sediment, Poland, Vistula River; 08815. estuary, pollution, trace metals, India, Cochin Estuary; 12264. irrigation water, pollution, organic matter, trace metals, sediment quality, Philippines; 05466. lake, organic matter, anthropogenic impact, bottom water, sulphur, Pacific, Palau Islands, Jellyfish Lake; 11099. orebody, contaminant, wetlands, wastewater, billabong, manganese, tailing, Australia, Alligator River, Magela Creek; Kakadu National Park; 00075. redox reaction, atmospheric chemistry, iron, aerosol, 02945. stormwater, heavy metals, urban runoff, river water quality, bacterial enzyme activity, 03813. trace element, size fractionation, river water, 01508. trace metals, estuary,



- principal components analysis, factorial discriminant analysis, France, Seine River; 05925. water quality, arsenic, chromium, particle transport, solute transport, Italy, Po River; 00553.
- speciation/solubility modelling**  
migration behaviour, geochemical transport, uranium speciation, groundwater chemistry, radioactive waste disposal, 07066.
- species distribution**  
arid land, landscape dynamics, plant community, Mexico, Puebla, Rio Zapotitan; 01132.
- species diversity**  
deposit feeder, soft sediment, macrophagy, organism, particle size, 06545.
- species exchange**  
chemical species, vertical structure, dry deposition velocity, acid rain, regional acid deposition model, 06237.
- species identification**  
dinitrogen pentoxide, sample preparation, organic nitrate, alcohol, 11976.
- species richness**  
conservation, GIS, map generalisation, habitat, USA, California; 04263.
- specific energy**  
side weir, triangular channel, weir, design procedure, 05913.
- specific energy content**  
organic matter, decomposition, 12718.
- specific heat**  
manure, organic matter, thermal characteristic, 01362.
- specific humidity**  
advection, evapotranspiration, horizontal advection, boundary layer, Brutsaerts theory, 10380.
- specific surface area**  
soil water vapour, gas chromatography, adsorption isotherm, 06837.
- specific yield**  
unconfined aquifer, drainable water, unsaturated zone, saturated flow, time dependent drainage, 08191.
- speckle displacement**  
displacement, spectrum method, 10895.
- SPECMAP**  
minimal cost function method, age/depth relation, deep sea core, Milankovitch, sedimentation rate, core, 05651.
- SPECMAP oxygen isotope record**  
seawater composition, strontium isotope, global climate, chemical weathering rate, periodicity, orbital parameter, 12506.
- spectra**  
mesoscale simulation, boundary layer, lower boundary forcing, soil database, vegetation database, 07184. turbulent parameter, density fluctuation, 08333.
- spectral absorption feature**  
albedo, soil crusting, rainfall simulation, soil mapping, soil degradation, France; 05789.
- spectral albedo**  
spectral brightness coefficient, statistical analysis, USSR; 07479.
- spectral analysis**  
anorthosite, impact structure, remote sensing, Moon; 09805. column density, earthlimb spectra, 08558. dendrochronology, climate change, tree ring analysis, Lagarostrobos franklinii, Medieval Warm Period, Little Ice Age, Australia, Tasmania; 05152. El Nino/Southern Oscillation, sea surface temperature, sea level pressure index, rainfall, tropics, contingency table, Egypt, Nile River; 08350. fractal dimension, diffusion, Langevin model, erosion process, 11238. methodology, turbulent momentum, heat flux, 06146. micromorphology, image analysis, soil feature, soil colour, 01328. Milankovitch theory, oxygen isotope, glacial/interglacial cycle, U-Th disequilibrium, USA, Nevada, Devils Hole; 12502. periodicity, obliquity insolation cycles, Pliocene/Pleistocene, marine record, palaeoclimate record, ice age cycle, Atlantic, DSDP Site 607; Pacific, ODP Site 677; 07831. quasi biennial oscillation, Southern Oscillation, tropical atmosphere, principal oscillation pattern, 04011. remote sensing, water quality, Netherlands, Loosdrecht Lakes; 02075. surface wave, SASW, nondestructive testing, spring thaw, frozen soil, thaw depth, soil strength, 03557. vadose zone, nonconductive process, heat transport, 12968.
- spectral angular function**  
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- spectral band**  
image data, spatial variability, near-infrared spectrum, 01922.
- spectral behaviour**  
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- spectral brightness**  
remote sensing, soil mapping, Chernozem, digitisation, Russian Federation, Volga Region; 01316.
- spectral brightness coefficient**  
statistical analysis, spectral albedo, USSR; 07479. water turbidity, 07532.
- spectral characteristics**  
solar radiation transfer, Eddington's approximation, turbidity coefficient, ozone, albedo, pollution, 05013.
- spectral diffuse reflectance coefficient**  
turbid layer theory, vegetation cover, 05341.
- spectral emissivity**  
temperature, vegetation, soil moisture, 04229.
- spectral feature**  
lithology, lineament mapping, 02010.
- spectral image analysis**  
nutrient loss, soil compaction, Brookston clay loam, micromorphology, Canada, Ontario; 01329.
- spectral image processing system**  
visualisation, imaging spectrometer, 12014.
- spectral index**  
canopy reflectance, prairie vegetation, burning, 12103. crop discrimination, remote sensing, 02059.
- spectral information**  
multispectral imaging, supermultispectral imaging, spatial information, 13333. spatial information, classification, spatial spectral variability, 10884.
- spectral inversion**  
orbiting satellite, inverse theory, occultation measurement, 11789.
- spectral irradiance**  
radiation transfer calculation, actinic flux, 09473.
- spectral light photosynthesis model**  
chlorophyll, pheophytin, phytoplankton algae, pigment profile, remote sensing, 09837.
- spectral matching**  
classification, library searching, imaging, spectrometer, 06293.
- spectral measurement**  
mesosphere nightglow, 09786. solar radiation, ozone, cloud, ultraviolet B, sulphur dioxide, Greece, Thessaloniki; 10800. surface rock, atmospheric dust, thermal infrared, Mars; 00780.
- spectral method**  
fast Fourier transform, groundwater flow, heterogeneity, hydraulic conductivity, 12989. groundwater flow, finite element model, time integration, flow equation, 12996. rotating channel, topography, stratified flow, 08348.
- spectral mixing analysis**  
nonphotosynthetic vegetation, green vegetation, AVIRIS, USA, California, Jasper Ridge; 12102.
- spectral mixture analysis**  
AVIRIS, vegetation boundary, bedrock geology, reflectance spectra, USA, Sierra Nevada; 12093. isothermal mixture, multispectral thermal infrared, 04198.
- spectral model**  
low order model, forecast, skill, 13227. numerical weather prediction, variational data assimilation, data assimilation, adiabatic spectral model, 04017. regional model, boundary effect, 13133. turbulence, energy dissipation rate, neutral density fluctuation, 11857.
- spectral parameter**  
momentum flux, gravity wave energy, 11872.
- spectral property**  
tree ring data, El Nino/Southern Oscillation, dendrochronology, USA; 08423.
- spectral radiance**  
temperature, spectral ratio, emissivity, 04227.
- spectral ratio**  
emissivity, spectral radiance, temperature, 04227.
- spectral reflectance**  
albedo, surface flux, radiometer, spatial variability, seasonal variability, grassland, 06130. boreal forest, vegetation index, Estonia; 03178. camera, remote sensing, agriculture, 04268. Meteosat, land surface, Africa; 02009. Norway spruce, acid mist, ozone, 04255. oil fire, smoke, angular reflectance, Kuwait; 04137. salinity, sediment concentration, 03204. soil sample, class description, database, 08625. suspended inorganic matter, bentonite, silt, radiometric experiment, suspension, radiation, grain size, 03404. suspended sediment, depth distribution, coastal water, 06398. Thematic Mapper, lithology, igneous rock, Spain, Badajoz, Burguillos del Cerro Complex; 04238.
- spectral reflectivity**  
Sierozem, soil salinisation, 05888.
- spectral resolution**  
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- spectral response**  
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- spectral shift**  
leaf area index, canopy photosynthetic capacity, 00910.
- spectral signature**  
grain amaranthus, LAI, NDVI, solarimetric measurement, 03177. Landsat TM, SPOT, inland water quality, 00939.
- spectral slope**  
cumulus, radiative property, satellite, visible spectrum, infrared spectrum, 02894.
- spectral statistical interpolation**  
variational analysis system, data assimilation, national meteorological center, USA, District of Columbia, Washington; 03998.
- spectral theory**  
heterogeneity, hydraulic head, groundwater flow, hydraulic conductivity, 11693.
- spectral training**  
class definition, maximum likelihood classification, automation, USA, Wisconsin; 04191.
- spectral transform**  
efficiency, general circulation model, parallel computer, scale, 01721.
- spectral variability**  
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- spectral vegetation indices**  
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- spectral waveband**  
remote sensing, reflectance analysis, organic matter, soil reflectance, USA, Indiana; 07965.
- spectrometer**  
magnetosphere, solar wind, Jupiter; 02030. photosynthesis, vegetation monitoring, 02039. reflectance mode, mapping, 08559. spectral matching, classification, library searching, imaging, 06293.
- spectrometer data**  
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- spectrometry**  
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- spectrophotometer**  
multitype sensor, gas concentration, lidar, 07129.
- spectrophotometric determination**  
organic carbon, organic matter, dichromate, 06839.
- spectrophotometric technique**  
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- spectrophotometry**  
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- spectroradiometer**  
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- spectroscopy**  
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- spectrum**  
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- spectrum analysis**  
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- spectrum distribution function**  
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- spectrum method**  
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- specular return**  
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- speed**  
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- speed of light**  
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- speleogenesis**  
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- speleology**  
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- speleothem deposition**  
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- Sphagnum**  
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- Sphagnum accumulation**  
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- sphere**  
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- sphere model**  
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- spherical cap harmonic model**  
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- spherical cavity**  
groundwater flow, pressurised flow, gravity effect, 01533.
- spherical geometry**  
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- sphericity**  
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- spicule**  
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- spill**  
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- spillage**  
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- spilled oil**  
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- spillway**  
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- spillway design**  
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- spit elongation**  
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- spit formation**  
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- Spitak**  
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- splash**  
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- splash detachment**  
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- splash erosion**  
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- splash saltation transport**  
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- spoil heap**  
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- sponge**  
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**spore flora**

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**SPOT 2**

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DEM, vegetation cover, alpine landscape, remote sensing, Canada, Yukon Territory, St. Elias Mountain, Front Range; 04250.

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**spray droplet**

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**spray overtopping**

model, field study, wave height, artificial island, Froude model, 01715.

**spreading coefficient**

pore space, organic liquid, immiscible liquid, vadose zone, gas-water interface, 13007.

**spreadsheet**

GIS, forestry, fuelwood production, Nepal; 05336.

**spring (1986-1989)**

50 mb height wave, ozone, stratospheric wave, Southern Hemisphere; 02882.

**spring (1990)**

seasonal climate, climate summary, Southern Hemisphere, 07153.

**spring (1991)**

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**spring climate variability**

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**spring deposit**

calcite, soil atmosphere, algae, travertine, Quaternary, UK; 12281.

**spring-fed lake**

dimictic lake, ice cover, water balance, discharge, irradiance, thermocline, lake characteristics, Iceland, Thingvallavatn; 00505.

**spring flooding**

peak flow, flood maximum, empirical model, numerical model, 02601.

**spring hydrograph**

Maillets' equation, karst aquifer, recession curve, aquifer characteristic, groundwater hydrograph method, linear reservoir coefficient, 09376.

**spring measurement**

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**spring rainfall**

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**spring thaw**

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**spring warming**

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**spring water**

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**spring water chemistry**

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**springhead protection**

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**sprinkler irrigation**

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**spruce damage**

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**spruce forest**

throughfall, stemflow, infiltration, interception, beech forest, oak forest, Hungary, Soproni Mountain; 09254.

**spruce/Jack pine forest**

pitch pine pollen, late glacial, soil, Holocene, forest history, oak-white pine forest, pollen record, USA, Massachusetts, Cape Cod, Owl Pond; 02420.

**spruce plantation**

forest damage, wind speed, UK, Scotland; 02844.

**spruce stand**

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**sprung discharge**

Cretaceous (Lower), catchment area, limestone, geology, hydrology, speleology, France, Rhone Valley, Fontaine de Vauluse; Mount Ventoux; 00239.

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**ssampling method**

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**SSM/I data**

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**SSSI**

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LIMS, isentropic surface, potential vorticity, 00873.

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**stabilisation**

Holocene, sea level, Pleistocene (late), morphology, chronostratigraphy, coastal dunefield, TL dating, dune activation, Australia, Northern Territory, Gulf of Carpentaria, Groote Eylandt; 04631. landscape management, ecological inventory, vegetation, river regulation, river design, Germany, Bavaria; 06102. recrystallization, geochemistry, unconformity, burial, Ordovician, Knox Group, dolomite, USA, Appalachians; 05488.

**stabilising process**

landscape system, land use, control, evaluation, Czech Republic, Bohemia; 06809.

**stability analysis**

landslide, limit state analysis, slope, 06644.

**stability calculation**

landslide, pore pressure, engineering geology, soil mechanics, slope failure, Finland, Kimola; 02338.

**stability class**

OCD model, coastal area, neutral condition, overwater stability, 01717.

**stability condition**

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**stability constant**

aggregation, clay dispersion, carbohydrate, ultrasonic dispersion, 12709.

**stability criterion**

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**stability function**

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**stability property**

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**stability theory**

closure equation, extremity hypotheses, river regime, 04871.

**stable**

radiative destabilization, nocturnal, boundary layer, desert, model, 02840.

**stable atmosphere**

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**stable boundary layer**

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**stable isotope**

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River; Nevada, Truckee River; 01460. groundwater flow, petroleum exploration, mineral diagenesis, porewater evolution, Australia, Victoria, Gippsland Basin; 02723. isotope composition, groundwater origin, deuterium, recharge, precipitation, USA, California; 00613. isotope concentration, evapotranspiration, atmospheric recycling, meteoric water, groundwater, Africa, Sahel; Sudan; Africa, (East); 00466. isotope tracer, plant water uptake, transpiration, soil moisture, 07028. nonmarine ostracod, Quaternary, palaeoenvironmental indicator, lake, palaeosalinity, 06701. precipitation source, isotope composition, deuterium, oxygen-18, rainfall chemistry, USA, California, California Desert; 00475. stratigraphy, deep sea core, oxygen-18 record, global carbon budget, carbon cycling, 12507. water resources, hydrochemistry, groundwater, recharge, Jamaica, Martha Brae River Basin; 01554. water vapour, transpiration flux, rice crop, evapotranspiration, Australia, (Southeast); 00482. Younger Dryas, Saalian/Eemian transition, deep sea stable isotope record, Kattegat Stadial, benthic foraminifera, Denmark, Anholt; 12512.

**stable isotope analysis**

topographical influence, precipitation pattern, mean annual temperature, deuterium distribution, snow, Antarctica; 12668.

**stable isotope data**

Milankovitch forcing, Holocene (early), climate reconstruction, palynology, radiocarbon dating, Canada, British Columbia, Coast Mountains, Castle Peak; 01242. palynological record, lapse rate, sea level, Intertropical Convergence Zone, El Nino/Southern Oscillation, glacial conditions, Indonesia, Molucca Sea; 10154.

**stable isotope model**

global model, precipitation chemistry, zonally averaged model, Canada; Greenland; Arctic; Antarctic; 04830.

**stable isotope ratio**

oxygen, carbon, palaeolimnology, palaeoclimatology, marl, lake marl, Finland, Joroinen, Lake Saarijärvi; 02355.

**stable sliding**

strength-velocity dependence, sliding velocity, stability, translational landslide, 12436.

**stack**

coastal plain, synoptic analysis, dispersion, pollutant, Israel; 02943. plume, photochemical equilibrium, photostatic equilibrium, probability density, nitrogen oxide, 07318.

**stack emission**

geostatistics, coal, power station, particulate, 13261.

**stacked raft**

marine deposit, shelly clay, glacial raft, Clava shelly till, Devensian Interstadial, amino acid dating, UK, Scotland, Inverness, Clava; 07858.

**stacking**

accumulation rate, sand sea, sand supply, sediment budget, Quaternary, aeolian sedimentation, dune, bounding surface, Mexico, Gran Desierto; 02124. cyclothem, Fischer plot, carbonate, time series, 12389. permafrost, push moraine, active push moraine, glaciofluvial sediment, Canada, Northwest Territories, Axel Heiberg Island, Thompson Glacier; 04633.

**stacking order**

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**stadial**

Little Ice Age, semiacoustic surveying, seafloor, glaciomarine deposit, Svalbard, Spitsbergen, Hornsund Fjord; 08994.

**stadial advance**

Odrianian glaciation, Dnieperian glaciation, TL dating, chronology, Saalian I ice sheet, Poland; Ukraine; 09031.

**stage**

peak flux rate, surface slope, gravel bed stream, bedload discharge, sedimentation, Israel, Negev Desert, Nahal Yatir; 10433.

**stage 13**

Great Interglacial, Pleistocene (Middle), climate optimum, loess, paleosol, China, Loess Plateau; Italy, Alps, Piedmont; Eurasia; 06704.

**stage discharge hysteresis**

channel instability, suspended sediment, sediment flux, temporal variability, glacial river, Iceland, Jokulsa a Solheimasandi River; 10442.

**stage-discharge relationship**

discharge estimation, stream gauging, ice effect, 06942. momentum transfer, open channel flow, floodplain flow, Manning's n, 11592.

**staged disaggregation**

parameter estimation, Mejia-Rousselle model, streamflow simulation, disaggregation, stochastic hydrology, moment preservation, 02608.

**stagnant basal ice**

basal erosion, glacial dispersal, till, carbonate, entrainment, shale, escarpment, USA, Ohio, Allegheny Plateau; 06727.

**stagnant fluid**

groundwater flow, mass transfer, convection/dispersion equation, miscible displacement, porous media, 04915.

**stagnant ice sheet**

calcium carbonate, sandstone, conglomerate, precipitation, Poland, Vistula River; 06731.

**stagnation**

diamicton, Oak Creek Formation, Michigan Lake lobe, Laurentide Ice Sheet, subglacial deforming bed, lodgement till, deglaciation, till, USA, Wisconsin; 00080.

**stagnation point**

bifurcation, nonlinearity, mountain wave, airflow, 09588.

**stagnohumic gley**

hydrological regime, forest soil, root growth, plough furrow, Stagnopodzol, UK, Wales, Tywi Forest; 12808.

**Stagnopodzol**

stagnohumic gley, hydrological regime, forest soil, root growth, plough furrow, UK, Wales, Tywi Forest; 12808.

**stalactite**

calcite crust, tropical landform, karst geomorphology, lateral solution, Thailand; 04581. stalagmite, morphogenesis, cavernous topography, tropical environment, cave, Rohtas limestone, flow path, India, Guptadham Cave; 04580.

**stalagmite**

cave pearl, concrete, dam, carbon dioxide, calcium carbonate, pisolite, cave,



- USA, California, Redding, Trinity Dam; 00051. morphogenesis, cavernous topography, tropical environment, cave, Rohtas limestone, flow path, stalactite, India, Guptadham Cave; 04580.
- stalagmite sequence**  
uranium series, speleothem, Pleistocene (Upper), uranium/thorium dating, palaeoclimate reconstruction, France, Languedoc, Grotte de Clamouse; 00258.
- stalagmitic flowstone E**  
Riss/Wurm interglacial, flowstone, speleothem, isotope stage 5, Acheulian artifact, uranium series dating, France, Nice, Lazaret Grotto; 04652.
- Stampian**  
Rupelian, Oligocene, seismite, palaeoseismicity, dish-structure, Aeolian deposit, France, Paris Basin; 03249.
- stand conversion**  
hardwood stand, whole tree harvesting, soil temperature, soil moisture, microclimate, 00703.
- stand model**  
forest, wood, harvest, management, carbon dioxide, 08394.
- standard**  
aerial photography, GIS, map, accuracy, USA; 06303. AGI, GIS, environment, infrastructure, remote sensing, data capture, policy education, training, UK; 10841. data exchange, infrastructure, spatial information, 03104. data exchange, legislation, national LIS, UK; 13466. data model, digital cadastre, data transfer, Italy; 10929. data standard, exchange format, geographical data, 10939. data structure, concept standardisation, geographical information, 09765. data transfer, LIS, 10937. DLG-3, SDTS, mapping, 08596. exchange, LIS, GIS, Switzerland; 10935. FIPS 123, software library, SDTS, 08594. FIPS 173, GIS, SDTS, 08595. FIPS 173, SDTS, 08591. geographic information, economics, quality, 13342. GIS, litigation, data sharing, 04207. GIS, resource data, USA; 13341. GPS, digital network, telecommunications, 06272. implementation, encoding, SDTS, 08588. information system, 06304. legislation, data quality, GIS, LIS, 10901. map design, GIS, 10843. quality, reliability, map, 08600. raster, SDTS, 08593. SDTS, 08598. SDTS, software design, processor, 08589. SDTS, TIGER, 08597. SDTS, topology, vector, 08592. spatial data, map, catalogue, 03105. topology, TIGER, SDTS, 08590.
- standard deviation**  
autocorrelation, texture measure, SAR, SIR-A, Spain; 03173. structure parameter, boundary layer, flux measurement, verification, momentum flux, sensible heat flux, water vapour flux, 09461.
- standardisation**  
data exchange, digital geographical data, DRIVE, PROMETHEUS, 00833. data model, statistics, map digitisation, Slovenia; 04171. LIS, GIS, data resource, 01960. LIS, precision, 10902. spatial data, 13344.
- standardised principal components**  
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- Stansbury oscillation**  
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- star-shaped polygon**  
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- starfish**  
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**stone deterioration**

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- surface water temperature**  
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- surfactant activity**  
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- surfactant flushing**  
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- surfactant layer**  
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- surfactant marker**  
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- surfactant sorption**  
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- surge characteristics**  
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- survey administration**  
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- survey control network**  
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- survey data**  
Bayesian model, GIS, mapping, wildlife, UK, Scotland, Grampian; 10997.
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- surveying industry**  
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- surveying practice**  
geodesy, CERCO, geodetic engineer, 07561.
- surveying profession**  
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case law, boundary demarcation, Canada, Ontario; 02101.
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- suspended fraction**  
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- suspended inorganic matter**  
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**suspended load**

coarse-grained sediment, sediment-water interface, sediment transport, 07565. continental crust, Archaean, fractionation, lead isotope, 09974. diatom, opal, clay mineral, deep sea fan, alluvial deposit, sand, mineralogy, granulometry, Congo, Congo Continental Shelf; Congo River; Congo, Ubangui River; 02166. dissolved load, relief, substrate variability, runoff, soil erosion, Germany, Lower Saxony, Leine River; 06616. estuary, salinity, halocline, sediment transport, river mouth, salt wedge, bedload, Canada, British Columbia, Fraser River Estuary; 00030. Pleistocene (late), river, morphological change, sinuous channel, Last Glacial Maximum, Australia; 11250. sediment load, velocity distribution, turbulent flow, Von Karman, 00958. sediment transport, bedload, current, sensitivity analysis, flow velocity, wave, 02111. solution load, discharge, fluvial erosion, Spain, Basque Country, Nerbioi River; 00367. surf zone, sediment transport, longshore current, beach, resuspension, USA, Oregon, San Marine; 07622.

**suspended material**

carbon, nitrogen, phosphorus, phytoplankton, river water quality, Netherlands, Rhine River; 03811. geomorphological process, denudation process, drainage basin, dissolved, Poland, Carpathian Foothills, Stara Rzeki; 10061. particulate carbon, nitrogen, depth, organic matter, carbon, Italy, Liguria; Mediterranean Sea; 03385.

**suspended matter**

ecological water-quality coefficient, river water quality, BOD, permanganate oxidation demand, dissolved oxygen, ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, phosphate, 02694. freshwater, discharge, grain size, silt, estuary, Netherlands, Ems Estuary; Germany, Ems Estuary; 04357. hydrographic survey, circulation, terrigenous material, shelf, continental margin, Aegean Sea, Sporades Basin; 01009. mercury, turbidity, resuspension, pollution, eutrophication, particulate matter, plankton, Adriatic Sea; 00077. mud, weathering, organic matter, clay, Czech Republic, Moravia; Bohemia; 09886. NOAMP field programme, deep flow, dispersion, current meter, gyre, deep seafloor, Atlantic, (Northeast); 03295. plume, river input, resuspension, sedimentation, estuary, Sweden, Ore Estuary; 02148. pollution, estuary, heavy metals, North Sea, Scheldt Estuary; Belgium; 11152. river water quality, dissolved metal, particulate metal, zinc, manganese, complexation, oxidation state, estuary, chemical speciation, France, Seine River; 02692. seawater, barite, euphotic layer, grazing, organic matter, Southern Ocean; 05561. surficial film, cohesive sediment, erosion, sediment trap, shear stress, lake, Sweden; 03268. surficial sediment, clay mineral, Iraq, Khor Al-Zubair Estuary; Iraq, Shatt Al-Basrah Canal; Arabian Gulf; 07745. trace metals, AAS, particulate matter, atmospheric input, diagenesis, sedimentation, biogeochemistry, anthropogenic input, geochemistry, Baltic Sea; 00160. trace metals, fractionation, water column, anoxic basin, Black Sea; 07727. water chemistry, mercury, lake water, seston, temporal variation, Sweden; 02139. wet season, dry season, organic matter, estuary, river, China, Huanghe River; 00033.

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extraction, chlorinated biphenyl, sampling method, 04887.

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chlorophyll, water quality, absorption spectra, chromaticity analysis, Canada, British Columbia, Chilko Lake; 12148.

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bacteria, runoff, carbohydrate, hydrolysate, sugar, mannose, galactose, monosaccharide, India; Bay of Bengal; 02262. estuary, tracer, freshwater, seawater, mixing, salinity, trace element, Europe, Rhine River; Meuse River; 07613. ground chemistry, uranium, thorium, rare earth element, particulate matter, colloid, Brazil, Minas Gerais, Pocos de Caldas; 07072. organic matter, seawater, cycling, water column, sediment trap, 03366. pH, coagulation, dissolution, sedimentation, freshwater, seawater, geochemical cycle, trace metals, 00125. scavenging, lead flux, isotope composition, water column, gasoline, Atlantic, (Northwest); 01031. shelf, submarine canyon, sedimentation, euphotic zone, France, Toulon; 07642. water column, seawater, scavenging, residence time, trace metals, Atlantic, Sargasso Sea; Bermuda; 00157.

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dissolution, euphotic layer, turbidity, Atlantic; 07656. ferro-alloy industry, heavy metals, industrial plant, India; 11981. sampling, seawater, pumping system, trace element, 08899.

**suspended sediment**

accretion, mudflat, sedimentation rate, wetlands, estuary, reclamation, Portugal, Sado Estuary; 04356. agricultural catchment, runoff water quality, erosion, phosphorus, USA, Pennsylvania; 02679. algae, nutrient, sediment loading, phytoplankton, partitioning, USA, North Carolina, Durant Lake; 09890. AVHRR, NOAA 11, sea surface, France, Gironde Estuary; 11010. basin model, sediment graph, weathering, bedload, channel, arid zone, India, Luni River; 03260. bayou, flood, sediment transport, tidal marsh, shear stress, USA, Louisiana, Terrebonne Bay; 07609. bedload, channel erosion, flow regime, river regulation, water level, discharge, Austria, Drava River; Hungary, Drava River; Croatia, Drava River; Slovenia, Drava River; 06936. channel sediment, floodplain sediment, surface water quality, Chernobyl nuclear accident, radionuclide, UK, England, Severn River; 03802. concentration profile, sediment transport, open channel flow, conservation law, sediment concentration, 04874. contaminant transport, monitoring program, sampling method, water quality management, sediment sampling, Canada; 10590. cooling water discharge, power station, turbulent diffusion coefficient, surface plume, 07538. current, water depth, velocity, channel, 09854. deforestation, logging, streamwater chemistry, streamflow, sediment load, Malaysia, Sabah, Ulu Segama; 00635. density flow, sediment transport, shallow water sediment, accumulation, mud, periplatform, platform, shelf, USA, Florida Shelf; Bahama Bank; 01005. deposition, erosion, Lagrangian model, sediment transport, tidal river, turbidity, 05421. deposition, grain size, discharge, reservoir, sedimentation, lake sediment, Costa Rica, Rio Reventazon; 06445. depth distribution, coastal water, spectral reflectance, 06398. erosion, river discharge, sediment transport, sediment yield, Africa, (North), Maghreb; 06944. erosion, shear stress, flume, sediment-water interface, cohesive sediment, 04329. estuary, nepheloid layer, shelf, fine grained sediment, mud belt, France, Aquitaine, Gironde Estuary; Cap Ferret Canyon; 11125. field calibration, Imhoff cone, sediment, irrigation runoff, 07940. filtration, sediment sizing, bottom sediment, grain size distribution, contaminant, Canada, Lake Erie; 01110. fine sediment,

shelf, Gulf of Mexico; 12301. flume, Sea Carousel, flow meter, velocity, erosion, 00166. fluvial erosion, mechanical denudation, megarelief, precipitation, denudation, 11237. forested catchment, hysteresis, lumped model, sediment yield, upland catchment, UK, England, Pennines; 03739. grain size distribution, concentration fluctuation, sampling strategy, sediment monitoring, sampling method, Norway; 10436. grain size, rating curve, time series, Austria, Danube River; 08740. heavy metals, discharge, river water quality, reservoir, Iraq, Tigris River, Samarra; 12933. humic material, fulvic material, transverse mixing zone, sorption, streamwater quality, hydrophobic species, organic pollutant, 07000. intertidal deposit, tidal bedding, bedform, rhythmite, France, Normandy, Mont-Saint-Michel Bay; 09872. intertidal flat, tidal flat, water circulation, sediment distribution, wind direction, Canada, Bay of Fundy, Minas Basin; 12242. lake, sedimentation rate, water depth, bottom sediment, river inflow, watershed, storm, Japan, Biwa Lake; 03271. mass transport, automatic sampler, sediment load, trace element concentration, 10439. mineralogy, particle size distribution, sediment transport, river regulation, India, Cauvery River; 06943. monitoring programme, proglacial stream, data reliability, sampling method, Switzerland, Valais, Haut Glacier d'Arolla; 10437. mudflow, estuary, channel flow, sediment transport, 11595. open channel flow, velocity profile, Cebeci-Smith model, suspending flow, 04875. optical backscatter sensor, Atlantic, Amazon Shelf; 08910. optical backscatter sensor, winnowing, bed armouring, 08903. optical property, chlorophyll a, fluorescence, dissolved organic matter, microbial self-purification, Europe, Danube River; 02693. particle size, sediment yield, optical turbidity meter, turbidity, 10431. particulate matter, centrifugation, filtration, colloidal fraction, fractionation, 11226. phosphorus, fractionation, grain size, apatite, Canada, Ontario, Big Creek; Big Otter Creek; North America, Great Lakes, Lake Erie; 11149. phytoplankton, bioassay, biotoxicity, toxicity, Switzerland, Geneva Lake; France, Rhone River; 11151. pipeline, sediment transport, subsurface erosion, logging, USA, California, Caspar Creek Experimental Watershed; 10418. proglacial stream, caesium-137, sediment delivery, mountain drainage basin, Greenland, Mditluagkat Glacier; 10077. radiometric fingerprint, sediment source, radionuclide concentration, sediment transport, UK, England, Devon; 10435. refractive index, optical backscatter sensor, sediment concentration, particle size, temporal variation, 04515. reservoir, lake, erosion, glacial deposit, Norway; 08756. river sinuosity, erosion, shear stress, ice breakup, Canada, Northwest Territories, Liard River; 11065. river water quality, lake, riverine lake, sediment dynamics, Canada, St Lawrence River; Quebec, St Pierre Lake; 10487. river water, cobalt, radionuclide, adsorption, desorption, Portugal, Tejo River, Fratel Reservoir; 02188. runoff water quality, adsorption, river water quality, soil erosion, sediment transport, pollutant transport, 09322. sand wave, erosion, Gulf Stream, continental shelf, shear stress, USA, South Carolina; 08784. sand wave, turbulence, acoustic measurement, 07569. seabed sediment, estuary, sea level, bedform, Canada, Bay of Fundy Chignecto Bay; 09895. seasonal variation, river mouth, particle size, drainage basin, India, Krishna River; 11076. sediment concentration, land use, sediment yield, erosion, Poland, Carpathian Mountains, Stara Rzeki Basin; 10383. sediment concentration, uniform flow, open channel flow, 03772. sediment deposition, deposit density, debris flow, China, Yunnan Province, Dongchuan City, Jiangjia Ravine; 10422. sediment flux, temporal variability, glacial river, stage discharge hysteresis, channel instability, Iceland, Jokuls a Solheimasandi River; 10442. sediment load, rating relationship, discharge-flow relationship, Iran, Dez River; 10440. sediment monitoring, stream discharge, flow velocity, BB-ADCP, flow measurement, Austria, Danube River; 11594. sediment rating curve, sediment load, flow averaging, Canada, New Brunswick, Kennebecasis River; 12889. sediment release, headwater catchment, sediment transport, sampling strategy, 10441. sediment source, drowned valley, tidal range, current, bottom sediment, river, fine grained sediment, China, Fujian Province, Shacheng Bay; 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Eemian Interglacial, Odra Glaciation, Drenthe stage, correlation, Saale Glaciation, Middle-Polish Glaciation, Holstein Interglacial, Mehlbek (Fuhne) cold phase, Wacken (Domnitz) Interglacial, Germany; Poland; 02411.

**Wasatch Formation**

Eocene, palaeocurrent, alluvial fan, coal, uranium, USA, Wyoming, Powder River Basin; 06527.

**wash**

runoff, rainfall simulation, experiment, brown soil, loess, soil erodibility, splash, Poland, Lublin Upland; 10237. slope evolution model, boundary conditions, transport, weathering, erosion, 00236.

**wash frequency**

wash process, instability threshold, stream head hollow, magnitude, 12404.

**wash load**

pump sampling, sediment rating, bedload, sediment transport, Philippines, Luzon, Magat River Basin; 10447.

**wash off**

precipitation chemistry, leaching, dry deposition, throughfall enrichment, forest canopy, 11556.

**wash out coefficient**

aerosol bound radionuclide, precipitation quality, wet deposition, scavenging coefficient, snow out coefficient, 11560.

**wash process**

instability threshold, stream head hollow, magnitude, wash frequency, 12404.

**washed till**

drumlin, Quaternary, seismic refraction sounding, Finland, Hankasalmi, Laukaa; 04643.

**Washington**

PAH, river sediment, diploptene, drainage basin, organic carbon, USA, Washington, Columbia River; 09882.

**washland management**

flood alleviation, flood storage, flood management, UK, England, West Yorkshire, Aire and Calder Washlands; 08247. flood risk, environmental management, flooding, land drainage, UK, England, Great Ouse River; 08243.

**washland reservoir**

flood management, numerical model, river regulation, water level control, UK, England, Beam River; 08248.

**washover fan**

Pleistocene, fossil, sedimentology, lagoon, Italy, Rome, Ponte Galeria; 01281.

**washover sand**

tsunami, mud, Pleistocene, sand, Japan, Tokyo Bay; 09905.

**washover spillway**

meltwater flux, high water level, Younger Dryas, isostatic rebound, Lake Tonawanda, spillway, Canada, Ontario, Lake Erie; Niagara Gorge; 06740.

**Washtucna Soil**

Old Maid Coulee Soil, Devis Canyon Soil, Quaternary (late), stratigraphy, loess, tephra, cataclysmic flooding, Sand Hills Coulee Soil, USA, Washington, Columbia Plateau, Channeled Scabland; Palouse; 04650.

**waste**

discharge rate, flow, seasonal discharge, sensitivity analysis, water quality management, BOD, 01623. fish, river, trace metals, pollution, Arabian Sea; Pakistan, Karachi; 08818. floating cage, bottom sediment, phosphorus, aquaculture, nutrient cycling, salmon, UK, Scotland, Loch Traiaig; 03316. pH, sorption, microbe, desorption, chelation, organic matter, iodine, humification, 00131. radionuclide, gamma emitter, tritium, mussel, biodeposition, Mytilus, filter feeder, France, Rhone Estuary, Gulf of Fos; Rhone River; 00074. sediment pollutant, silver, beryllium, molybdenum, anthropogenic impact, Czech Republic, Bohemia, Elbe River; 12326.



**waste burial**

chloride mass-balance, contamination potential, recharge, groundwater, natural tracer, USA, New Mexico; 01578.

**waste containment**

geotechnical liner, groundwater contamination, pollution control, legislation, geotextile, USA; Europe; 10530.

**waste disposal**

bauxite mining, Soda recovery, drainage system, groundwater contamination, Australia, Western Australia; 09382. clay barrier, hydraulic conductivity, smectite, impermeability, 06584. contaminant leakage, groundwater contamination, bauxite residue, clay liner, Australia, Western Australia, Kwinana; 10532. contaminant source, urbanisation, principle component analysis, groundwater contamination, Spain, Catalonia, Besos River Basin; 09401. contaminant transport, potable water quality, karst aquifer, groundwater pollution, India, Madhya Pradesh, Raipur; 11740. environmental impact, water depth, pycnocline, dispersion, calcium carbonate residue, Yellow Sea; China; 04410. leachate, heavy metals, organic contaminant, water quality, runoff water quality, landfill, Finland; 02676. monitoring technique, groundwater contamination, land reclamation, seepage, environmental pollution, waste management, 09434. Neogene, smectite, saponite, weathering, sealing, Spain; 08894. planation surface, soil erosion, contamination, groundwater, Germany, Taunus Mountains; 06686. sand exploitation, environmental database system, groundwater management, GIS, Czech Republic, Bohemia, Ceske Velenice; Austria, Lower Austria, Gmund; 12160. soil science, contamination, soil remediation, 12816. surface water quality, groundwater quality, landfill design, landfill management, leachate, liner, Australia; 10528. water quality monitoring, landfill site, monitoring programme, surface water quality, groundwater quality, 10534. water treatment, water protection, water management, policy, Czech Republic; Slovakia; 06064.

**waste disposal plant**

climate variability, USA, New Mexico; 08411.

**waste disposal site**

soil pollution, volatile organic compounds, gas chromatography, chromatography, 03634. vegetation cover, soil surface, Manning's n, arid land, kinematic wave model, overland flow, hydraulic roughness, 06930.

**waste dump**

pollution, hydrocarbon, anthropogenic impact, Antarctica, McMurdo Station; 09936.

**waste lagoon**

seepage rate, lagoon collapse, karst, sinkhole, collapse risk, USA, Minnesota, Bellechester; 10115.

**waste load allocation**

dissolved oxygen, optimisation model, dynamic programming model, water quality management, USA, Pennsylvania, Schuylkill River; 13041. transverse mixing, programming model, river quality management, potable water quality, 06094. water quality management, multiple objective analysis, optimisation, 02775.

**waste management**

waste disposal, monitoring technique, groundwater contamination, land reclamation, seepage, environmental pollution, 09434.

**waste material**

organic waste, compost maturity, municipal waste, Spain; 03618.

**waste remediation**

treatment technology, soil water contamination, groundwater contamination, USA; 06012.

**waste site**

coupled flow theory, compacted clay, electrokinetics, 10269.

**waste storage**

cadmium, soil pollution, cultivated soil, industrial waste, Poland; 12821.

**waste tip**

anthropogenic landscape change, gravel pit, sewage disposal, dam, vineyard terrace, quarry, Slovakia, Bratislava; 06626.

**waste-to-energy residue**

seawater, fly ash, leaching, disposal, lead, cadmium, contaminant, 04397.

**wastewater**

billabong, manganese, tailing, speciation, orebody, contaminant, wetlands, Australia, Alligator River, Magela Creek; Kakadu National Park; 00075. BOD, irrigation, nitrification, 09205. estuary, urban runoff, residence time, freshwater, industrialisation, USA, Texas, Galveston Bay; 12315. gas chromatography, mass spectrometry, organic pollutant, influent, effluent, Sweden, Goteborg; 06974. groundwater contamination, groundwater protection, industrial effluent, heavy metals, India, Ganga Basin; 06024. HCB, wetlands, DOC, wastewater, sediment-water exchange, USA, Louisiana; 12367. heavy metals, bioavailability, mining, Honduras, Yojoa Lake; 08751. meat-processing effluent, nitrous oxide emission, effluent, denitrification, New Zealand; 08039. phytoplankton, seasonal variation, fjord, flocculation, nutrient supply, Denmark, Jutland, Vejle Fjord; 07615. pollutant dispersion, particle dispersion, environmental impact assessment, offshore platform, Saudi Arabia, Arabian Gulf, Safaniya; 01027. seawater, PCB, pollutant, sewage, pesticide, Spain, Alicante, Benidorm; 03317. sediment-water exchange, wastewater, HCB, wetlands, DOC, USA, Louisiana; 12367. service charge, GIS, aerial photography, USA, Colorado, Denver; 04319. sewage plume, sea ice, bacteria, health hazard, Antarctica, McMurdo Station; 09937. sorption capacity, heavy metals, sewage farm, Germany, North Rhine-Westphalia, Munster; 11534.

**wastewater discharge**

discharge fee, pollution unit, legislation, water quality, wastewater treatment, Germany; 05940.

**wastewater disposal**

agricultural pollutant, land use practice, atmospheric deposition, riparian forest, estuarine water quality, industrial pollutant, USA, Maryland, Chesapeake Bay; 08117. contaminant plume, surface water quality, dispersion, vertical distribution, LAS, estuary, Croatia, Sibenik, Krka River Estuary; 10469. leaching, phosphate, adsorption, dispersion, solute transport, travel time, Australia, Western Australia, Albany; 08202. water management, water supply, health, sewage treatment, 06060. water supply, water resources, water management, water policy, water legislation, water treatment, 07109.

**wastewater injection**

freshwater-saltwater interface, groundwater quality, self purification, effluent, France, Vendee, Saint Jean de Monts; Saint Hilaire de Riez; 08212. groundwater quality, hydrogeology, sewage treatment, reverse osmosis desalinisation, USA, Florida, Charlotte County; Sarasota County; 11733.

**wastewater management**

water quality, estuarine water quality, Turkey, Izmir Bay; 06100.

**wastewater management**

nitrification, denitrification, phosphorus, ammonium, wastewater treatment, sludge stabilisation, sludge disposal, treatment legislation, Germany; 07112.

**wastewater pond**

nitrification, ammonium, chemical oxygen demand, groundwater contamination, infiltration, Jordan, Khirbet Es-Samra; 03855.

**wastewater reuse**

groundwater recharge, waterborne enteric virus, risk assessment, irrigation water quality, water quality management, USA, California; 06087. industrial water use, sewage treatment, water conservation, Singapore; 06090. irrigation water quality, wastewater treatment, water conservation, Italy, Sicily; 06101. irrigation, groundwater recharge, soil-aquifer treatment, potable water quality, 06091. nematode eggs, helminthological guideline, irrigation water quality, 06057. nitrate, pesticide, denitrification, water treatment, potable water quality, France, Brittany, Plevin; 06067. potable water quality, toxicity, health, USA, Colorado, Denver; 06089. water reclamation, irrigation, water supply, USA, California, San Diego; 06088.

**wastewater treatment**

activated sludge, protozoan analysis, organic loading rate, ciliate, 11622. algal pond, nitrogen removal, phosphorus removal, 11609. biological treatment, phosphorus removal, aerobic/anaerobic conditions, 11618. ecological chemistry, mercury, pulp mill effluent, 06961. eutrophication, water purification, orthophosphate, algae, phosphorus, South Africa, Vaal River Barrage Reservoir; 06093. hazardous waste treatment, catalytic enzyme, horseradish peroxidase, chlorophenol, 11621. hydrodynamic model, coastal water quality, nutrient load, salinity, temperature, diffusion, Italy, Emilia-Romagna, Adriatic Sea; 06963. irrigation, storage reservoir, effluent treatment, 06086. lake water quality, geopurification, infiltration basin, sewage effluent, dune environment, France, Gironde, Lacanau; 06667. lead, zinc, mine wastewater, purification pond, *Typha latifolia*, 00518. nitrogen balance, surface water quality, groundwater quality, soil water chemistry, atmospheric deposition, denitrification, Austria; 05938. oxidation pond, BOD, suspended solids, coliform bacteria, nitrogen, wetlands, water quality, USA, California, Arcata; 05937. physicochemical treatment, river water quality, fluoride concentration, Canada, Quebec, St Lawrence River; 06988. potable water treatment, gas chromatography, liquid chromatography, mass spectrometry, organic pollutant, water quality analysis, polar compounds, 06973. risk assessment, potable water quality, groundwater recharge, pathogen, virus, artificial recharge, USA, California; 08235. river water quality, river self-purification, remediation, water quality management, China, Anhui Province, Bengbu, Huaihe River; 05963. secondary impoundment, toxicity testing, impoundment system, industrial wastewater, 05944. sewage treatment, macrophyte pond, biodegradation, microbial community, aquatic plant, 06092. sludge stabilisation, sludge disposal, treatment legislation, wastewater management, nitrification, denitrification, phosphorus, ammonium, Germany; 07112. stormwater treatment, sewer system, stormwater detention, detention tank design, Germany; 06096. treatment plant design, biological nutrient removal, dissolved air flotation, South Africa, Baviaanspoort; 01618. urban storm drainage, urbanisation, surface water quality, sewage purification, South Africa, Johannesburg; 05946. wastewater discharge, discharge fee, pollution unit, legislation, water quality, Germany; 05940. water conservation, wastewater reuse, irrigation water quality, Italy, Sicily; 06101. water quality management, marine treatment, disinfection, estuary, coastal water, water quality, UK, England, North Devon; 08234. water quality management, simulation model, retention tank, pollution discharge, urban drainage, Germany; 06099. water reuse, water quality management, groundwater recharge, geopurification, water supply, sewage treatment, 09441.

**WATEQ model**

Podzol, magnesium sulphate, ammonium sulphate, soil solution chemistry, aluminium fraction, Germany, Baden-Wurttemberg, Black Forest; 06843.

**water absorption**

chemical weathering, corrosion, sulphation, porous limestone, stone weathering, 06798.

**water abstraction**

ecological model, groundwater modelling, GIS, Netherlands, Zandvoort; 12155. environmental protection, water quality management, water resource management, water demand, water shortage, Hungary; 09445.

**water abundance retrieval**

Langley plot, LOWTRAN 7, water vapour column, 06137.

**water activity meter**

soil water potential, USA, Washington, Richland; 09134.

**water allocation**

environmental appraisal, water conservation, integrated management, water resource development, India; 03886. irrigation scheduling, equity, productivity, irrigation water management, 04989. water management, water resources, water diversion, water export, Canada; 11770. water resource management, recreation value, wetlands, economic benefit, USA, California, San Joaquin Valley; 06081.

**water authority**

legislation, water management, dam, reservoir, environmental policy, Germany; 07115.

**water balance**

agricultural catchment, vegetation, evapotranspiration, soil moisture deficit, land use, UK, England; 00649. agricultural water balance, agroclimatic zoning, GIS, precipitation, temperature, evapotranspiration, China, Yunnan; 04978. alluvial basin, hydrogeology, groundwater resource, USA, Arizona; 06074. anthropogenic input, sea level, lake level, water regime, Russian Federation, Caspian Sea; 03515. climate change, carbon dioxide doubling, hydrological cycle, IRMB model, Switzerland, Murg Catchment; 02577. crop coefficient, irrigation model, agricultural water management, soil moisture capacity, water use efficiency, root zone, crop water use, potential



evapotranspiration, 02781. crop, maize, forest, evapotranspiration, France; 08336. discharge, irradiance, thermocline, lake characteristics, spring-fed lake, dimictic lake, ice cover, Iceland, Thingvallavatn; 00505. evaporation, rainfall chemistry, ecology, atmospheric water, water management, 06904. evapotranspiration, runoff yield, timber harvest, streamflow, forest hydrology, France, Massif Central, Mont Lozère; 11764. fluvial transport, climate change, land use effect, soil moisture, evapotranspiration, runoff, river discharge, South America, Amazon River; Tocantins River; 09234. forest, evapotranspiration, stomatal resistance, Penman-Monteith relationship, 08337. ground truth, vegetation cover, vegetation classification, UK, Scotland, Balquhider; 12096. groundwater recharge, stemflow, throughfall, interception loss, pine forest, precipitation, 09253. heat balance, glacier, ablation, precipitation, net radiation, evaporation, China, Tien Shan, Urumqi River; 06036. hydrochemistry, groundwater discharge, wetlands, UK, England, East Anglia, Badley Moor Fen; 11602. hydrology, bog development, blanket bog, Canada, Newfoundland; 01482. lake restoration, eutrophication, nutrient loading, lake water quality, Netherlands, Ankeveen Lake; Kortenhoeft Lake; 11657. mass balance, glacier, meltwater runoff, China, Tien Shan; 06044. mass transfer, energy budget, evaporation, USA, Minnesota, Williams Lake; 01479. permafrost, environment, climate change, anthropogenic impact, thermokarst, mass wasting, coastal flooding, Canada; 09081. plant growth, Topog IRM, hydroecological model, soil hydraulic property, climate data, 13037. precipitation, water table, evapotranspiration, wetland hydrology, groundwater discharge, fen, 02647. probability analysis, Russian Federation, Ladoga Lake; 12907. riparian zone, nitrate transformation, wetlands, runoff water chemistry, streamwater quality, Denmark, Rabis Stream; 12923. river channel stability, flood, climate change, land degradation, evapotranspiration, salt balance, soil erosion, Mediterranean; 10235. river discharge, areal precipitation, evapotranspiration, rainfall/runoff, Belgium; China; Burma; 01461. salinisation, irrigation water management, drainage water reuse, irrigation efficiency, salt balance, 06070. salt balance, soil salinity, groundwater discharge, stream salinity, Australia, Western Australia, Cuballing; 13036. sandy soil, evapotranspiration, neutron probe, soil water content, hydraulic conductivity, crop water use, millet crop, Niger; Africa, Sahel; 04921. snow cover, spatial variability, snow distribution, Russian Federation, Kursk Region; 07074. soil moisture, drainage, vertisol, runoff curve number, agricultural water management, 09362. soil-vegetation-atmosphere system, grassland, soil water, water flow, hydrological cycle, Canada, Saskatchewan, Matador; 06906. soil water balance, throughfall, stemflow, interception, evapotranspiration, sapflow, forest water balance, evaporation, canopy resistance, 02750. soil water content, soil hydraulic property, hydraulic conductivity, water retention, Richards' equation, 11690. streamflow, subsurface outflow, soil water storage, evapotranspiration, rain forest catchment, storm flow runoff, Brazil, Amazon Basin; 11568. temperature, evapotranspiration, precipitation, soil moisture, climate change, USA, Missouri; Kansas; 00465. tree water status, forest hydrology, interception loss, runoff, transpiration, leaf water potential, 04974. water budget model, climatology, soil moisture, 09521. water demand, water quality, water management, water resources, Brunei; 07103. water resource management, simulation model, water management, expectation matrix, economic parameter, Hungary, Balaton Lake; 09447.

#### water balance data

long term variability, catchment, UK, Wales, Plynlimon; 09517.

#### water balance model

AVHRR, geometric control, ground control point, Australia, Murray-Darling Basin; 12022. evaporation, potential evaporation, spatial variability, rainfall, catchment scale, USA, Kansas, Konza Prairie, King's Creek; 08072. evapotranspiration, forested catchment, hillslope hydrology, subsurface flow, overland flow, soil moisture, USA, Connecticut, North Madison; 02619. evapotranspiration, water storage, groundwater fluctuation, runoff, bog regeneration, percolation loss, wetlands, 08104. GIS, storm parameter, surface flow, groundwater recharge, Saudi Arabia; 12140. jet stream, vegetation, lake level, palaeoclimate, Last Glacial Maximum, pollen, Artemisia steppe, Greece, Ioannina Lake; Mediterranean; 06716. lumped conceptual model, parameter uncertainty, water resources, monthly assessment, rainfall/runoff, Algeria; 00486. moisture regime, hydrological region, water surplus, water deficit, rainfall, evapotranspiration, drainage basin, Africa, (West); 08054. raster GIS, geomorphological modelling, routing model, Netherlands, Rhine River; 12139. seepage, groundwater recharge, groundwater balance, mathematical model, Tadzhikistan, Khanaka; 09374. soil freezing, soil moisture, freeze-thaw regime, 04855. soil moisture, vegetation, climate anomaly, heat balance model, 07185. solute transport, unsaturated zone, drained soil, Richards' equation, soil water flux, 04933. water level variation, recharge, time series analysis, groundwater investigation, groundwater management, New Zealand, Canterbury; 04935. water resources, rainfall, evapotranspiration, agricultural water use, water level, reservoir, Guyana, Boerasirie Water Conservancy; East Demerara Water Conservancy; 00654.

#### water bodies

chlorophyll concentration, phytoplankton, 05358.

#### water budget

radiation, land surface, 02066. regional forecast model, precipitable water, cold air outbreak, Gulf of Mexico; 10756. squall line, longwave radiation, sensitivity, 13188. streamflow, precipitation, forested catchment, Spain, Prades Mountains; Montseny Mountains; 01450. water flow model, pan lysimeter, leachate, bromide tracer, soil water flow, zero tension pan lysimeter, collection efficiency, 02716. water holding capacity, slope stability, Lithic Borofolists, peat, soil erosion, Germany, Alps; 08957. water level decline, precipitation, runoff ratio, climate change, saline lake, vegetation deterioration, lake, China, Qinghai-Tibet Plateau, Qinghai Lake; 04876. water loss, evapotranspiration, seepage, hydrological budget, freshwater marsh, France, Charente-Maritime, Moeze Marsh; 00510.

#### water budget model

climatology, soil moisture, water balance, 09521.

#### water chemistry

chalk stream, chalk hydrology, streamflow, water temperature, 09261. mercury, lake water, seston, temporal variation, suspended matter, Sweden; 02139. residence time, flow path, ion concentration, pH, alkalinity, rock glacier, glacial stream, 07076. seabed, freezing, sea ice,

engineering, overconsolidation, conductivity, temperature, USA, Alaska, Stefansson Sound, Harrison Bay; 00006. shale, burial, porosity, reservoir, Cretaceous, Louann Salt, albitisation, salt, USA, Gulf Coast; Gulf of Mexico; 02247. spatial variability, ombrogenous mire, precipitation chemistry, bog, UK; Ireland; 08108. speciation, aluminium toxicity, hydrolysis, Hong Kong; 05930. uranium cycling, phosphate complex, uranium speciation, 08112.

#### water circulation

atmospheric pollution, water shortage, land use, UNCED, 01425. bottom sediment, pollutant, storm surge, eutrophication, flood, sea barrier, Baltic Sea, Gulf of Finland, Neva Inlet; St Petersburg; 00078. metamorphism, Cretaceous, burial diagenesis, oxygen isotope, hydrogen isotope, shale, Japan, Kinki District; 03343. reservoir, morphometry, water quality, hydrochemical survey, Russian Federation, Uglichskeye Reservoir; Rybinskoye Reservoir; Russian Federation, Sheksninskoye Reservoir; Russian Federation, Ivan'Kovskoye Reservoir; 10493. sediment distribution, wind direction, suspended sediment, intertidal flat, tidal flat, Canada, Bay of Fundy, Minas Basin; 12242. seiche, physical limnology, barotropic/baroclinic circulation, lake hydrodynamics, stratification, Switzerland, Lugano Lake; 08102. velocity distribution, vertical eddy viscosity, shallow water, 12903.

#### water cloud

cloud, IR emittance, 03927.

#### water colour

fish, lake water quality, humic matter, bioavailability, anoxia, mercury, Sweden; 03830. flora, fauna, lake, chemical composition, hydrology, Russian Federation, Central Caucasus; 01480. remote sensing, DOC, Landsat TM, pH, lake water chemistry, Canada, Ontario, Sudbury; 07016.

#### water column

anoxic basin, suspended matter, trace metals, fractionation, Black Sea; 07727. anthropogenic impact, sewage, suspended solids, transparency, coastal discharge, coastal water, USA, California, San Diego; 04399. bacteria, sinking, organic matter, production, leucine, thymidine, Pacific; 04489. bioturbation, roughness, bioturbation, porewater, organic matter, 11187. bottom sediment, oxygen demand, lake, organic matter, 08745. bottom water, accumulation rate, abyssal plain, lamina, marker horizon, salinity, redox potential, Black Sea, Bosphorus Straits; 00059. brine, Messinian, Miocene, dissolution, evaporite, bottom water, seafloor, Mediterranean Sea; 00066. calcium carbonate, accumulation rate, mixing, radiocarbon, plutonium, Atlantic, (North); 06486. carbon, nitrogen, phytoplankton, seasonality, aggregation, 07719. flocculation, cohesive sediment, tidal channel, Denmark, Wadden Sea, Ho Bug; 07614. freshwater, phytoplankton, spring bloom, benthos, nutrient, stratification, organic matter, fjord, energy supply, sedimentation, seasonal variation, primary production, Norway; 02260. gasoline, suspended particle, scavenging, lead flux, isotope composition, Atlantic, (Northwest); 01031. geochemistry, ferromanganese crust, accumulation rate, hydrothermal input, sedimentation, trace metals, Atlantic, Romanche Fracture Zone; 03297. geochemistry, organic geochemistry, diagenesis, biomarker, palaeontology, biogeochemical cycle, 03365. humic substance, macromolecule, seawater, lignin, polymerisation, humin, 03368. ice, krill, particle composition, phytoplankton, Antarctica; Scotia Sea; Weddell Sea; 04487. lead-210, fine sediment, sink, radionuclide, residence time, Atlantic, (North); 10016. lycopane, organic matter, biomarker, hydrocarbon, 06564. mixing, organic matter, deep sea sediment, carbon cycle, accumulation rate, South China Sea; Sulu Sea; Pacific; 11134. nutrient, bottom water, oxygen minimum zone, flux, manganese, cycling, USA, California; Pacific, (North), California Margin; 04380. organism, contaminant, PCBs, intertidal sediment, diffusion, porewater, Netherlands, Wadden Sea; 07667. organism, pollution, PAHs, transport route, biogeochemical cycle, Spain, Basque Country, Guipuzcoa Coast; Atlantic, (North), Biscay Bay; 04405. oxidation, lake eutrophication, electron transport system, plankton, carbon balance, zooplankton, Hungary, Balaton Lake; 05417. phosphatase, phosphorus, lake, diffusion, wind, resuspension, USA, Florida, Apopka Lake; 05409. phytoplankton, marine snow, pycnocline, storm, zooplankton, particulate matter, sedimentation, Mediterranean Sea; Adriatic Sea; 03394. plume, bottom sediment, dispersion, entrainment, disposal, USA, Florida, Miami Harbour; 04400. primary production, seawater, particle flux, bloom, 07732. productivity, organic matter, bottom water, oxygen, adsorption, terrigenous sediment, anoxia, sedimentation, black shale, Arabian Sea; 00158. rebound model, residence time, sediment-water interface, seafloor, aggregate, 09987. resuspension, sediment-water interface, contamination, heavy metals, lake, Switzerland, Geneva Lake; 08759. salinity, estuary, anthropogenic input, phosphorus cycle, phytoplankton biomass, mass balance, regeneration, USA, Delaware, Delaware Bay; 03274. seasonal variation, particulate matter, scavenging, cycling, resuspension, residence time, USA, Washington, Dabob Bay; 05455. seawater, scavenging, residence time, trace metals, suspended particle, Atlantic, Sargasso Sea; Bermuda; 00157. sediment transport, seabed topography, bedform, 12390. sediment trap, organic matter, benthos, seasonal change, seafloor, Atlantic, (North); 09923. sediment trap, suspended particle, organic matter, seawater, cycling, 03366. sediment-water interface, linear alkylbenzenesulphonate, diffusive transport, Japan, Teganuma Lake; 03270. sediment, atmospheric deposition, turnover, monomictic reservoir, plutonium cycle, USA, South Carolina, Barnwell County, Savannah River, Pond B; 00559. sediment, dissolved organic matter, anoxic lake, Canada, Ontario, Jacks Lake; 00979. sedimentation, biosynthesis, ketone, China, Qinghai Lake; 12234. seepage, greenhouse gas, geophysical mapping, seabed, gas, methane, global warming, North Sea; 03393. settling, tracer, fallout, plutonium, accumulation rate, residence time, radionuclide, USA, California Continental Borderland, San Pedro Basin; California, Continental Borderland, Santa Monica Basin; 05457. sponge, bryozoan, seamount, hydrothermal history, Holocene, carbonate, sea ice, Greenland Sea, Vesterisbanken Seamount; 05442. wave, resuspension, estuary, transport, particle concentration, Sweden, Ore River; Ore Estuary; 02149.



**water column overturn**

ODP Leg 127/128, Pliocene (late), Quaternary, biosiliceous sedimentation, opal content, freshening event, cyclical sedimentation, Japan Sea, Oki Ridge, ODP Site 798; 04610.

**water conservation**

agroforestry, sustainable resource development, Kenya, Mount Kenya; 08924. cassava management, soil loss, traditional polyculture, monoculture, soil erosion, Nigeria; 11434. integrated management, water resource development, water allocation, environmental appraisal, India; 03886. nonpotable water, water reuse, cooling process, cleaning processes, water management, Germany, Darmstadt; 07111. pollution control, water resource management, water policy, water pricing, Turkey; 03884. soil conservation, basin management, runoff control, agricultural development, land use, erosion control, flood control, Cape Verde, Santiago Island; 09421. tillage, soil conservation, efficiency, erosion control, runoff distribution, Russian Federation; 11757. wastewater reuse, industrial water use, sewage treatment, Singapore; 06090. wastewater reuse, irrigation water quality, wastewater treatment, Italy, Sicily; 06101. water legislation, water resources, water use, water management, Haiti, Port-au-Prince; 00669. water quality management, water resources, resource depletion, water pollution, China, (North); 09427. water resource management, water management, environmental management, water use, Hungary; 09446. water resources, water management, Australia, Western Australia, Pilbara region; 00666.

**water contamination**

nutrient, well water, groundwater quality, faecal coliform, Saudi Arabia; 10539. soil water contamination, industrial pollutant, risk analysis, risk reduction, 08205.

**water content**

ice content, calorimetric method, field method, permafrost, frozen soil, Canada, Quebec, Umiujaq; 07075. rock, fracture flow, groundwater recharge, time domain reflectometry, 03833. soil model, heat conduction, moisture diffusion, bucket model, wind velocity, bare soil surface, force restore method, evaporation, temperature, 00480. time domain reflectometry, volumetric water content, dielectric constant, soil moisture content, peat, 00567. water storage, layered soil, drainage, radioactive waste disposal, impermeable layer, hysteresis, protective barrier, 09366.

**water content estimation**

mountain catchment, evapotranspiration, root zone, soil water balance, soil moisture content, 10512.

**water cooling reservoir**

water quality, surface water temperature, chlorophyll a, 07539.

**water cycle**

biogeochemical cycle, bioproductivity, energy cycle, ecological monitoring, EOS, 07350. classification, mapping, forecasting, hydroecology, 02579.

**water damage**

reservoir construction, hazard management, Hungary, Kiskore Reservoir; 02641.

**water deficit**

evapotranspiration loss, hydrogeology, piezometric depression, environmental isotope, palaeohydrology, Africa, Sahel; 11669. rainfall, evapotranspiration, drainage basin, water balance model, moisture regime, hydrological region, water surplus, Africa, (West); 08054. water level fluctuation, lake water level, wetland management, floating island, Australia, Victoria, Pirron Yallock; 11599.

**water delivery**

agricultural water management, Tertiary unit, irrigation system, soil moisture simulation, Thailand; 02780. agricultural water management, water demand, system performance, irrigation system design, 07101.

**water demand**

climate change, ecohydrology, evapotranspiration, soil moisture, water resources, precipitation, runoff, Poland, Poznan; 00467. forecasting, GIS, water resource planning, USA, Texas; 10575. system performance, irrigation system design, water delivery, agricultural water management, 07101. water pollution, water resource planning, developing country, water resource management, 04995. water quality, water management, water resources, water balance, Brunei; 07103. water shortage, water abstraction, environmental protection, water quality management, water resource management, Hungary; 09445. water supply, water management, irrigation, lake level decline, Aral Sea; Kazakhstan, Syrdar'ya River; Uzbekistan, Amudar'ya River; 01624. water supply, water resource management, regulation, economics, 11767.

**water depth**

bottom sediment, river inflow, watershed, storm, suspended sediment, lake, sedimentation rate, Japan, Biwa Lake; 03271. bottom sediment, USA, Michigan, St Marys River; 02068. calving, glacier, tide water glacier, ice calving theory, slab calving, tabular calving, crevasse, USA, Alaska; Antarctica, Deception Island; Greenland, Jakobshavns Isbrae; 03571. current, sediment concentration, sediment transport, flume, wave cycle, 07566. decomposition, sewage, anthropogenic impact, organic carbon, lipid, settling, USA, California, Continental Borderland, Santa Monica basin; 05546. deep sea sediment, bacteria, organic matter, biomass, Mediterranean Sea; 12383. gold, grain size, redox potential, mineralization, mining, Japan Sea; Japan, Niigata Prefecture; 00055. humic acid, trace metals, phytoplankton, photooxidation, phosphorus, copper, Japan, Seto Inland Sea; 00155. multispectral data, seafloor, reflectance, Australia, Western Australia, Shark Bay, Hamelin Pool; 08678. pycnocline, dispersion, calcium carbonate residue, waste disposal, environmental impact, Yellow Sea; China; 04410. seabed, ecosystem, temperature, climate change, tide, sea level rise, flow velocity, 00040. subduction, scavenging, fractionation, sedimentation, radionuclide, porosity, Philippine Sea, West Philippine Basin; 04390. upwelling, interstitial water, barium, palaeoproductivity, productivity, Peru; 05550. velocity, channel, suspended sediment, current, 09854.

**water discolouration**

colour source, peat, land management, water resource management, dissolved organic matter, 00536. spatial distribution, moorland burning, hazard mapping, catchment management, moorland ditching, UK, England, North Yorkshire, Upper Nidd Valley; 00537.

**water dispersible clay**

interrill, erodibility, soil, rainfall simulation, agricultural land, USA, Ohio; 05773.

**water distribution**

distribution monitoring, water management, potable water, water quality management, Netherlands, Amsterdam; 07095. simulation model, water resource management, reservoir control, 02776.

**water distribution network**

optimisation model, water management, reliability, pressure lead, hydraulic availability, 02762.

**water distribution profile**

water use efficiency, soil conditioner, soil water movement, sandy soil, infiltration, sprinkler irrigation, wetting front advance, 04918.

**water diversion**

water export, water allocation, water management, water resources, Canada; 11770.

**water drop**

charge separation, raindrop fragmentation, splash, 11554. growth, evaporation, thunderstorm, charge separation, ice, 08291. radiative transfer, broadband parameterisation, solar radiation, water vapour, 02802.

**water drop pair**

inductive charge, drop breakup, electric field, 09485.

**water ecosystem**

principal components, covariance matrix, classification model, 07415. Quaternary history, lake basin, anthropogenic loading, biological productivity, history, Mongolia; 10076.

**water energy state**

soil compaction, clay material, France, Versailles; UK, England, Cornwall, St Austell; 11485.

**water erosion**

arable land, climate change, landscape sensitivity, cultivation practice, rilling, UK, England, South Downs; 11432. soil erosion model, water erosion prediction project, infiltration equation, runoff prediction, sagebrush rangeland, USA; 04705.

**water erosion prediction project**

infiltration equation, runoff prediction, sagebrush rangeland, water erosion, soil erosion model, USA; 04705. RUSLE, sediment yield, soil conservation, soil erosion, prediction technology, USLE, CREAMS, USA; 10225. slaking, soil erosion, rill erosion, model, sediment detachment, 12676. soil erosion, model, case based management, reasoning concept, USA; 04704.

**water exchange**

mixing, transfer factor, seawater origin, tritium, caesium-137, nuclear reprocessing, North Sea, German Bight; 08119. mountain catchment, groundwater flow, channel slope, streamflow, surface water-groundwater interaction, streambed topography, USA, Colorado, Rocky Mountains, St. Kevin Gulch; 08077. short period, climate variability, 02913. transport process, sound, temperature stratification, acoustic current profiler, lake, current measurement, Finland, Pajanne Lake, Tiirinselka-Lehesselka Bay; 05920. trophic status, floodplain water, estuary, hydrobiology, Ukraine, Dnieper River Estuary; 03788.

**water export**

water allocation, water management, water resources, water diversion, Canada; 11770.

**water extraction**

agricultural water management, optimisation, irrigation, mathematical model, path efficiency, water supply, 07106. tree, foundation, clay soil, soil water content, soil bulk density, duplex soil, Australia, Victoria, Melbourne; 12448.

**water filled pore**

Norfolk loamy sand, Kandiudults, pore space, microbial activity, nitrogen loss, soil compaction, 02520.

**water flea**

water quality management, phosphate load, eutrophication, lake water quality, turbidity, algal growth, Netherlands, Volkerak/Zoom Lake; 09350.

**water flow**

air flow, deformable porous media, capillary pressure, finite element method, semisaturated soil behavior, porous media, 08173. flow process, subglacial drainage, glacier, USA, Washington, South Cascade Glacier; 00631. hydrological cycle, water balance, soil-vegetation-atmosphere system, grassland, soil water, Canada, Saskatchewan, Matador; 06906. macrophyte, clay, plant, sedimentation, USA, Vermont, Memphremagog Lake; Canada, Quebec, Memphremagog Lake; 07705. transport, GIS, network routine, 08662.

**water flow model**

pan lysimeter, leachate, bromide tracer, soil water flow, zero tension pan lysimeter, collection efficiency, water budget, 02716.

**water flux**

precipitation, temperature, computer model, infiltration, snow fraction, throughfall, soil water content, streamflow, forest, Canada, Ontario, Turkey Lakes; Quebec, Laflamme Lake; 02751.

**water formation**

Sverdrup dynamics, climatology, coupled ocean-atmosphere model, ocean circulation, deep water formation, 00709.

**water holding capacity**

slope stability, Lithic Borofolists, peat, soil erosion, water budget, Germany, Alps; 08957.

**water hyacinth**

nitrogen fixation, phosphorus, flood pulse hypothesis, nutrient dynamics, floodplain pond, Argentina, Parana River; 06957.

**water industry**

pollution legislation, water resource management, multimedia, GIS, 12173. water management, environmental planning, water quality criteria, Germany; 07116.

**water industry development**

water management, water supply system, dam construction, environmental economics, 07117.

**water infiltration**

simulated rainfall, earthworm macropore, soil surface sealing, macropore, 07993.

**water inflow**

lake water quality, water outflow, trophic status, phosphorus, Israel, Lake Kinneret; 01520.



**water isotope**

palaeowater, ice core, deuterium excess, palaeoclimate tracer, general circulation model, ice age, 10132.

**water/land ratio**

coastline curvature, hurricane climatology, tropical cyclone filling, Atlantic; 11830.

**water legislation**

water resources, water use, water management, water conservation, Haiti, Port-au-Prince; 00669. water treatment, wastewater disposal, water supply, water resources, water management, water policy, 07109.

**water level**

bank erosion, discharge, estuary, Canada, Quebec, St. Lawrence Estuary, Pointe-au-Pere; 03787. censored data, ice cover, cross-sectional area, ice dam, exceedance probability, river discharge, frequency curve, 02627. Coriolis number, Bachmeter's equation, prismatic channel, kinetic parameter, velocity coefficient, 10410. dam, coastal wetland, aerial photograph, wetlands, USA, Michigan, Monroe County, Pointe Mouillee; North America, Lake Erie; 03215. deep borehole, thermistor, tilt sensor, fast flow, temperature, Greenland, West Greenland, Jakobshavns Isbrae; 12574. deltaic plain, marsh, aggradation, sediment distribution, USA, Louisiana, Gulf Coast; Mississippi River; 01274. discharge, suspended sediment, bedload, channel erosion, flow regime, river regulation, Austria, Drava River; Hungary, Drava River; Croatia, Drava River; Slovenia, Drava River; 06936. glacial isostatic adjustment, postglacial uplift, historical water level, North America, Great Lakes; 06739. groundwater management, confined aquifer, land subsidence, Japan, Tokyo; 01615. Holocene (early), sedimentary crustacean, hydrosphere, climate change, lake, Finland; 03540. hydroelectric plant, river regime, flow characteristic, outflow wave, Russian Federation, Krasnoyarsk, Enisei River; 11583. palaeovalley, marsh, groundwater table, freshwater marsh, peat, Holocene, sea level rise, USA, Connecticut, Hammock River Marsh; 05717. precipitation, surface water-groundwater interaction, lake hydrology, hydrochemistry, UK, England, Midlands, Oak Mere; 09297. reservoir, water balance model, water resources, rainfall, evapotranspiration, agricultural water use, Guyana, Boerasirie Water Conservancy; East Demerara Water Conservancy; 00654. river gauging, flow forecasting, time series analysis, river discharge, Austria, Vienna, Danube River; 11566. river, fine sediment, silt, bedform, 04330. two dimensional model, channel flow, flow over a sill, turbulent free-surface flow, flow velocity, Netherlands, Eastern Scheldt; 09284. water management, open channel flow, operation on-demand, distribution network, 11776. wetland lake, nitrogen, flood zone, river water quality, phosphorus, river delta, Romania, Danube River Delta; 12942.

**water level change**

electrical conductivity, telluric array, tectonic activity, surface strain, earthquake cycle, USA, California, Palmdale, San Andreas Fault; 07782. Holocene, subarctic lake, tree line, peat, Tyrrill Sea, lake level, Little Ice Age, Canada, Quebec, Lac de Pluviers; 11370.

**water level control**

washland reservoir, flood management, numerical model, river regulation, UK, England, Beam River; 08248.

**water level data**

parameter estimation, streamflow forecasting, stochastic model, discharge data, Hungary, Danube River; Tisza River; 02604.

**water level decline**

catchment planning, river protection, riverine environment, corridor environment, river corridor, flood, pollution, UK, Thames River; 00673. groundwater exploitation, irrigated agriculture, groundwater resource, groundwater management, Saudi Arabia, Tebrak, Minjur Aquifer; 02767. precipitation, runoff ratio, climate change, saline lake, vegetation deterioration, lake, water budget, China, Qinghai-Tibet Plateau, Qinghai Lake; 04876.

**water level fluctuation**

climate curve, anthropogenic change, boreal climate, Holocene, lake level, Europe, (East); 00321. confined aquifer, porosity, storage coefficient, aquifer thickness, barometric efficiency, earth tide, France; 11705. groundwater discharge, climate change, groundwater recharge, USSR; 03844. groundwater lake system, transience, lake water budget, chemical budget, surface water-groundwater interaction, USA, Wisconsin; 12904. lake water level, wetland management, floating island, water deficit, Australia, Victoria, Pirron Yallock; 11599. rainfall/recharge, tritium injection method, groundwater recharge, recharge measurement, 00564. regression analysis, earthquake, groundwater level, Japan, Shizuoka, Haibara; 01547. reservoir water quality, eutrophication, photoplankton, chlorophyll, reservoir management, Argentina, Cordoba, Embalse del Rio Tercero Reservoir; 07008.

**water level prediction**

flood management, flood forecasting, hydraulic load, barrier operation, seawater level, storm surge barrier, Netherlands, Rotterdam; 08088. lake water level, monthly water level, time series technique, statistical model, historical data, North America, Great Lakes, Eire Lake; 06948.

**water level rise**

storm surge, channel level, sea level, channel discharge, climate change, delta, Beaufort Sea; Canada, Mackenzie Delta; 12911.

**water level variation**

atmospheric pressure, lake inflow, lagoon, tide, Japan, Honshu, Shinji Lake; Japan Sea, Sakai; 12909. recharge, time series analysis, groundwater investigation, groundwater management, water balance model, New Zealand, Canterbury; 04935.

**water logging**

neotectonics, earthquake activity, fault scarp, pluvial lake, USA, Idaho, Pocatello Valley; Utah, Hansel Valley; 08935.

**water loss**

evapotranspiration, seepage, hydrological budget, freshwater marsh, water budget, France, Charente-Maritime, Moeze Marsh; 00510.

**water management**

agriculture, irrigation development, environmental impact, sustainable development, Sri Lanka; 01626. bareroot, water quality, fertiliser, pesticide, leaching, 01609. Bayesian inference, feedback control, irrigation system, 01627. canal system, discharge, measuring device, data management, database, 01616. channel design, channel hydraulics, seepage optimisation, trapezoidal channel, 01629. channel dynamics, transfer function, cross-section, open channel flow, 02629. climate change, drainage, system

performance, drain failure, agricultural drainage, 00646. compromise programming, decision making, multiple criteria, agricultural water management, Spain, Aragon, Tauste; 13046. dam, reservoir, environmental policy, water authority, legislation, Germany; 07115. data collection, document preparation, water use estimation, database, USA; Puerto Rico; Virgin Islands; 09430. decision process, expert system, canal renovation, project planning, irrigation project, Japan, Tone River Basin; 07108. discharge, agriculture, hydrology, river regulation, dam, USA, New Mexico, Rio Grande; 01605. distribution network, network redundancy, entropy theory, flow reversal, 03877. distribution network, network reliability, network design, optimisation, entropy theory, 03878. drought, river regulation, reservoir, water resources, conjunctive use, UK, Wales, Usk River; 07105. ecosystem impact, hydrological change, climate change, prediction, vegetation, 00662. ecosystem management, freshwater lake, estuary, lake formation, Netherlands, Volkerak/Zoom Lake; 09448. environmental impact, planning process, water resource planning, project design, USA; 02761. environmental management, water use, water conservation, water resource management, Hungary; 09446. environmental planning, decision support, GIS, simulation system, 12170. environmental planning, water quality criteria, water industry, Germany; 07116. Ernst equation, capillary rise, water table, flow resistance, drainage, subirrigation, 00647. expectation matrix, economic parameter, water balance, water resource management, simulation model, Hungary, Balaton Lake; 09447. fen restoration, cost benefit analysis, eutrophication, fen ecosystem, Netherlands, Vecht River; 11600. flood forecast, streamflow forecast, drought prediction, water resources, flood warning system, USA; 00484. flood protection, water quality management, environmental protection, ecological planning, Germany, Rhine River; 07113. geohydrological information system, groundwater model, GIS, Netherlands; 12159. groundwater flow, eutrophication, lake restoration, Netherlands, Utrecht, Loosdrecht Lakes; 03822. groundwater management, hydrological cycle, groundwater protection, environmental protection, Germany; 07110. hydrological cycle, seasonal variability, reservoir system, global warming, water resources, USA, Washington, American River; 10368. information system, automated map production, GIS, marketing, Netherlands; 00946. integrated water management, salinity control, pollutant load, shipping lock, intake sluice, lake water quality, Netherlands, Volkerak/Zoom Lake; 09449. irrigation water management, irrigation scheduling, 11777. irrigation, lake level decline, water demand, water supply, Aral Sea; Kazakhstan, Syrdar'ya River; Uzbekistan, Amudarya River; 01624. lake water quality, water quality management, micropollutant, shipping lock, intake sluice, Netherlands, Volkerak/Zoom Lake; 09450. land management model, irrigation water requirement, USA, Utah; 06071. land use, drainage, moisture regime, forest ecosystem, Czechoslovakia, Moravia; 01603. network design, optimisation, water supply, 01621. open channel flow, operation on-demand, distribution network, water level, 11776. optimisation model, regional water system, multiquality supply, multisource supply, real-time operation, Israel, Arava Rift Valley; 00650. optimisation model, uncertainty, plume containment, hydraulic conductivity, contaminant plume, 00625. pesticide, fertiliser, leaching, forest nursery, runoff, 01608. phosphorus load, ecosystem restoration, eutrophication, lake restoration, Netherlands; 03828. policy, waste disposal, water treatment, water protection, Czech Republic; Slovakia; 06064. potable water supply, law, EEC, water policy, Germany; Europe; 08233. potable water, water quality management, water distribution, distribution monitoring, Netherlands, Amsterdam; 07095. prehistoric settlement, Landsat TM, archaeology, Thailand; 11017. principal components analysis, multireservoir system, optimisation model, reservoir operation, hydropower system, censored data, 02644. protection zone, microorganism, anthropogenic pollutant, wellhead, Germany; 00623. reliability, pressure lead, hydraulic availability, water distribution network, optimisation model, 02762. reservoir engineering, water resources, reservoir operation, optimisation, sedimentation, water shortage, 07104. reservoir operation, dynamic programming, risk management, decision making, low flow augmentation, irrigation, France; 00653. reservoir operation, multiple reservoir system, optimisation, 08227. reservoir siting, environmental impact assessment, ecology, reservoir construction, Czechoslovakia, Turcek; 00507. reservoir system, density current, thermal stratification, hydroelectricity, cooling water, 03876. retention reservoir, flood protection, flood management, computer model, flood storage, 08245. river regulation, water quality, recreation, flood control, Hungary, Danube River, Tolna County; 02772. storage level, reservoir operation, multiple use management, Mali, Senegal River, Manantali Dam; 11771. transboundary drainage basin, GIS, South Africa; 12174. transients, canal network, unsteady flow, network hydraulics, St. Venant equation, wave reflection effect, embankment erosion, overtopping, control structure, 04865. water balance, evaporation, rainfall chemistry, ecology, atmospheric water, 06904. water conservation, non-potable water, water reuse, cooling process, cleaning processes, Germany, Darmstadt; 07111. water conservation, water legislation, water resources, water use, Haiti, Port-au-Prince; 00669. water conservation, water resources, Australia, Western Australia, Pilbara region; 00666. water policy, water legislation, water treatment, wastewater disposal, water supply, water resources, 07109. water quality, leakage, groundwater, UK, Scotland, Fort William; 06076. water quality, passive optical remote sensing, 07513. water resource planning, irrigation, industrial water use, environmental legislation, Thailand, Chao Phraya River Basin; 04997. water resource planning, water policy, water pricing, groundwater protection, Jordan; 03883. water resource planning, water quality, sustainable development, resource development, Europe, (East); (Central); 06058. water resources, runoff, flood, sediment load, turbidity, Romania; 09433. water resources, water balance, water demand, water quality, Brunei; 07103. water resources, water diversion, water export, water allocation, Canada; 11770. water shortage, pollution monitoring, water treatment, water use efficiency, water resource planning, Syria; 03885. water supply system, dam construction, environmental economics, water industry development, 07117. water supply, health, sewage treatment, wastewater disposal, 06060. water supply, legislation, Italy; 01630. water table decline, ecosystem impact, climate change, wetland desiccation, Netherlands, Rhine River; 00663.

**water mass**

Quaternary (late), palaeohydrological evolution, isotope data, microfauna, sedimentation rate, oxygenation, Indian Ocean, Mozambique Channel; 10150.



- seafloor, microfossil, ice rafted debris, ooze, Neogene, nannofossil, physical property, sedimentation rate, Antarctic Polar Front, Antarctic Circumpolar Current, Indian Ocean, Kerguelen Plateau, ODP Site 751; 02123.
- water-mineral interaction**  
hygromechanics, clay, mixture theory, hydraulic conductivity, effective stress, 11281.
- water movement**  
alkalinity, acid soil water, acid neutralisation capacity, streamwater, rainfall, conductivity, UK, Wales; 00552. anthropogenic impact, ecosystem model, fluid dynamics, hydroclimate, freshwater ecology, river, lake, 02606. Green-Ampt model, wetting front, Richards' equation, fuzzy logic model, infiltration, soil moisture content, 10508. vadose zone, infiltration, electrical resistance tomography, unsaturated flow, 00582.
- water optical behaviour**  
signal dynamics, MESSR, Italy, Grado; Venice; 03192.
- water origin**  
ionic concentration, lagoon hydrodynamics, isotopic study, circulation, Ivory Coast, Ebrie Lagoon; 05922.
- water outflow**  
trophic status, phosphorus, water inflow, lake water quality, Israel, Lake Kinneret; 01520.
- water pathway**  
transit time, soil moisture flow, lysimeter, oxygen-18, 07025.
- water planning**  
decentralised GIS, GIS, USA, Kansas; 00947.
- water policy**  
irrigation, water quality, waterlogging, salinity, water resource planning, Ethiopia; 03882. loess soil, erosion control, sediment deposition, water resource management, China, Yellow River; 03888. salination, groundwater contamination, water resource management, irrigation, Egypt, Nile River Delta; Aswan High Dam; 03881. water legislation, water treatment, wastewater disposal, water supply, water resources, water management, 07109. water management, potable water supply, law, EEC, Germany; Europe; 08233. water pricing, groundwater protection, water management, water resource planning, Jordan; 03883. water pricing, water conservation, pollution control, water resource management, Turkey; 03884. water resource development, China; 03887.
- water pollution**  
desertification, soil management, soil loss, mining area, sediment load, China, Yellow River, Shenfu Dongsheng; 10242. diffuse source, algal bloom, organic micro pollutant, water quality management, nutrient load, heavy metals, Netherlands; 09442. herbicide, groundwater contamination, ecotoxicology, atrazine, economic evaluation, pollution control, Italy; 07057. peat soil, phosphate, agriculture, runoff, USA, Florida, Everglades; 01375. pesticide, agricultural management, chemical contaminant, fate, transport process, 12912. riverine pollution, estuarine pollution, water quality modelling, pollution control, 11604. thermal imagery, ecological monitoring, aircraft scanner, Russian Federation, Moscow; 07537. water conservation, water quality management, water resources, resource depletion, China, (North); 09427. water resource planning, developing country, water resource management, water demand, 04995.
- water potential**  
porous media, filter paper, pressure plate, thermocouple psychrometer, soil water potential, soil water retention, 02713.
- water pressure**  
saturated clay, heating-cooling cycle, plastic strain, pore pressure, effective stress, 11282.
- water pricing**  
groundwater protection, water management, water resource planning, water policy, Jordan; 03883. water conservation, pollution control, water resource management, water policy, Turkey; 03884.
- water protection**  
water management, policy, waste disposal, water treatment, Czech Republic; Slovakia; 06064.
- water protection guidelines**  
fate, triallate, water quality, Canada; 09436.
- water purification**  
bank filtration, river-aquifer transfer, pollutant degradation, France, Lyon, Rhone River, Grand Gravier Island; 00620. humic substance, ozonation, chlorination, mutagenic test, activated carbon filtration, 06098. orthophosphate, algae, phosphorus, wastewater treatment, eutrophication, South Africa, Vaal River Barrage Reservoir; 06093.
- water quality**  
absorption spectra, chromaticity analysis, suspended mineral, chlorophyll, Canada, British Columbia, Chilko Lake; 12148. acidification, acid deposition, sulphate, organic anion, surface water, USA; 00528. acidification, water yield, sediment yield, aluminium, afforestation, 09412. agricultural pollutant, atrazine, herbicide, Italy, Bergamo Plain; 01572. agrochemical, nitrate dynamics, contaminant transport, basin hydrology, Czechoslovakia, Slovakia, Ondava Highlands, Domasa Reservoir; 00543. alkalinity regulation, soft water, USA, Florida; 01487. analytical technique, MAGIC, soluble reactive phosphorus, total dissolved phosphorus, phosphorus, 06958. aquaculture, phytoplankton, USA, Mississippi; 00933. arsenic, chromium, particle transport, solute transport, speciation, Italy, Po River; 00553. atmosphere, ocean, lake, international, drainage basin, 00675. biota, bioaccumulation, humic material, organic chemical, toxicity, 08109. cadmium, groundwater, lake sediment, estuary, suspended sediment, USA, Ohio, Old Woman Creek; 08805. canalised river, surface water-groundwater interaction, floodplain, phosphate, mercury, macrophyte community, France, Alsace, Rhine River; 13015. chlorophyll a, phosphorus, salinity, temperature, TM, UK, England, East Anglia, Norfolk Broads; 13441. chromatography, TLC, humic acid, aquatic humic acid, quantification, 05945. combined oxidant, monochloramine, bromochloramine, dibromamine, bromide, ammonia nitrogen, estuary, 00516. continuous monitoring, acid rain, pH, water, data analysis, 01511. degradation, freshwater, economic valuation, anthropogenic impact, water resources, 06068. deltamethrin, isomerisation, persistence, fate, pesticide, insecticide, 06969. detention storage, pollutant load, stormwater detention, storage design, USA, Minnesota, Minneapolis; 03798. diethanolamine, atrazine, genotoxicity, newt micronucleus test, 11619. DOC sorption, aluminium oxide, hydrous aluminium, iron oxide, USA, Colorado, Summit County, Snake River; Deer Creek; 01507. drainage network, GIS, pollution source, 04288. drawdown, littoral zone, phosphorus concentration, sediment, USA, Florida, Okeechobee Lake; 00555. environmental management, watershed management, water resources, 06059. estuarine water quality, wastewater management, Turkey, Izmir Bay; 06100. eutrophic lake, TM, Netherlands; 11009. eutrophication, coastal engineering, breakwater, bottom sediment, coastal erosion, Italy, Emilia-Romagna; 07669. fertiliser, land reclamation, historical record, data analysis, seasonal variation, Latvia; 01504. fertiliser, pesticide, leaching, water management, bareroot, 01609. fisheries management, GIS, estuary, USA, North Carolina, Albemarle-Pamlico Estuary; North Virginia, Albemarle-Pamlico Estuary; 05362. freshwater, vehicle exhaust, PAH, source, combustion, Australia, Australian Capital Territory, Burley Griffin Lake; 03321. gas chromatography, dilution activity, multimedia partitioning, octanol-water partition coefficient, infinite dilution activity coefficient, Henry's law coefficient, priority pollutant, 04886. geoscientific information system, contaminant modelling, groundwater resource, 12164. GIS, discharge consent, abstraction licence, water resources, river flow, 12144. GIS, land use, development project, USA, Texas, Austin; 03225. GIS, water resource management, data integration, data source, 12176. groundwater process, sandplain seep, regional aquifer, salinisation, Australia, Western Australia, East Belka; 01598. health, policy, river basin management, legislation, regulation, USA; 06097. heavy metal concentration, GIS, hydrochemical model, USA, Colorado, Arkansas River; 12145. hydrochemical survey, water circulation, reservoir, morphometry, Russian Federation, Uglichskiye Reservoir; Rybinskiye Reservoir; Russian Federation, Sheksninskiye Reservoir; Russian Federation, Ivan Kovskoye Reservoir; 10493. hydrochemistry, acidification, atmospheric deposition, weathering, Poland, Karkonosze Mountains; 00541. hydrochemistry, forest, acid deposition, UK, Wales, Plynlimon; 06051. hydrogeology, groundwater abstraction, groundwater resource, New Zealand, Nelson, Waimea Plains; 13042. hypersalinity, estuary, hydrology, Africa, Sahel, Casamance; 01483. infiltration, soil loss, exchangeable sodium, polycrylamide, polysaccharide, sodicity, polymer, 10217. information network, pollution, Germany, Elbe River; 05359. 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**weathering post**  
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**weathering relict**  
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**weathering trend**  
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**Wedel Jarlsberg Land (Saalian) Glaciation**

Bogstranda (Eemian) Interglacial, Sorkapp Land (Vistulian) Glaciation, stratigraphy, Pleistocene, Holocene, thermoluminescence, radiocarbon dating, Torellkjegla (Holstein) Interglacial, Svalbard, Spitsbergen; 02414.

**wedge**

mass movement, periglacial geomorphology, Weichselian, polygon, 04682.

**wedge shaped unit**

soil swelling, soil cracking, Chernozem, slickenside, Russian Federation, Stavropol; 03649.

**wedge sliding**

rock slope, stability, dynamics, 02336.

**weed control**

nitrogen, needle decomposition, phosphorus, pine plantation, fertiliser, USA, Florida; 08036. phosphorus mineralisation, nitrogen mineralization, organic matter, pine plantation, fertiliser, USA, Florida; 08037.

**Wegener Canyon**

Explora Escarpment, high-resolution seismics, stratigraphy, continental margin, fault control, Antarctica, Kapp Norvegia; Southern Ocean; 04620.

**WEGENER working group**

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**Weichselian (early)**

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**Weichselian (late)**

composition, rate, glaciomarine sediment, radiocarbon dating, iceberg, fjord glaciation, Greenland, East Greenland, Scoresby Sund; 00305. deglaciation pattern, ice dammed lake, glacier advance, Skogar Tephra, Younger Dryas, Atlantic, (North), Ash Zone 1; Norway, Vedde Ash Bed; 00261. deglaciation, canyon-like valley, meltwater stream, ice, frost weathering, glaciofluvial canyon, Sweden; 05680. deglaciation, transgression, ice contact delta, isostatic uplift, shore level change, Sweden, Halland; 06762. diamicton, gyttja, pollen, stratigraphy, radiocarbon dating, chronology, fjord sediment, Greenland, East Greenland, Jameson Land, Boksehandsken Lake; 00328. Eemian Interglacial, marine stratigraphy, record completeness, radiocarbon dating, AMS, Svalbard, Spitsbergen; 11366. end moraine zone, Weichselian, stratigraphical unit, luminescence dating, Sweden, Vastergotland Province, Sjtorp; 04593. geochronology, Quaternary sequence, delta sequence, glaciotectionics, lithology, Greenland, East Greenland, Jameson Land, Sjaellandselv; 00302. glacial maximum, till, glaciomarine sediment, radiocarbon, amino acid dating, Bleik moraine, beach ridge, Norway, Andoya, Bleik; 00292. glaciomarine sediment, deglaciation, Last Glacial maximum, radiocarbon dating, Svalbard, Spitsbergen; 01238. ice movement, glacial striae, dolerite, ice sheet, glacier erosion, Svalbard, Barentsoya; Edgeoya; 12578. ice sheet model, glacier hydrology, dynamics, Quaternary, Scandinavia; 02464. ice sheet thickness, block field, uplift, glacioisostatic rise, geometry, isostatic loading, Norway; Gulf of Bothnia; Fennoscandia; Sweden; 02465. lithofacies, diamicton, lodgement till, delta, aeolian dune, chronology, glacial stratigraphy, morphology, Greenland, East Greenland, Jameson Lane, Lake Boksehandsken; 00303. marine stratigraphy, Baltic ice lake, Younger Dryas, Scandinavia; Sweden, Kattegat; 04598. periglacial, frozen ground, ventifact, aeolian abrasion, Younger Dryas, Sweden, Halland; 07919. stratigraphy, loess, cryoturbation, palaeoclimate, paleosol, Pleniglacial, Belgium, Kessel; 09085.

**Weichselian (late) ice sheet**

lateral moraine, palimpsest glacial landscape, cross-cutting relationship, glaciofluvial landform, last deglaciation, Sweden; 06730.

**Weichselian**

basal till, glaciomarine sediment, transgression, Pleistocene, ice advance, seismic stratigraphy, Denmark, Skagerrak; 12531. fault, uplift, Gannsfjord lineament, neotectonics, glaciomarine clay, Norway, Jaeren; 02316. fire, pollen record, radiocarbon dating, Brorup Interstadial, Odderade Interstadial, charcoal, palaeovegetation, Denmark; 02425. fluvial deposit, aeolian deposit, periglacial, microjointing, faulting, Netherlands, Grubbenvorst; 12654. geochemical mapping, esker, radiocarbon dating, till, subfossil esker, stratigraphy, Finland, Vaasa County, Ostrobothnia; Oulu County, Ostrobothnia; 03530. glacial stratigraphy, Saalian Glacial, lake core, end moraine, interglacial environment, interstadial environment, Norway; 02405. Holocene, aeolian environment, Kesselt level, Warneton soil, superficial formation, France, Nord Pas-de-Calais, Scarpe Lowland; 09044. Holocene, mollusc, palaeoceanographic, sea level, Svalbard, Edgeoya; Barentsoya; 12530. ice wedge formation, TL dating, Jameson Land Drift, glacial lake, glacial deposit, Greenland, East Greenland, Jameson Lane; 00300. interstadial sediment, vegetation, beetle fauna, Brorup Interstadial, fossil flora, Sweden, Harnosand; 06541. late glacial, sediment, river, climate change, landscape development, temperature rise, Netherlands; 02282. loess, solution pocket, Eltville Tephra, Cainozoic, river terrace, Belgium, Bassenge, Eben, Romont Hill; 07770. marine deposit, glaciation, depositional history, Eemian, Greenland, East Greenland, Jameson Land, Aucellaelv; Lange-landselv; 01269. Pleniglacial (Upper), aeolian, ice core, morphology, depression, Older Dryas, Netherlands, Noord-Brabant, Groote Peel; 07916. polygon, wedge, mass movement, periglacial geomorphology, 04682. stratigraphical unit, luminescence dating, Weichselian (late), end moraine zone, Sweden, Vastergotland Province, Sjtorp; 04593. stratigraphy, palaeoenvironment, Oxygen Isotope Stage 5, Eemian, deglaciation, Svalbard, Bellsund; 07873. terrestrial record, deep sea sediment core, ice rafted detritus, marine record, glacial history, Svalbard, Fram Strait; 04646. till, meltwater deposit, geological map, Well Record Archive, water supply, Quaternary deposit, Denmark, Frederiksvaerk; 10069.

**Weichselian advance**

Holocene, marine transgression, geological map, Quaternary deposit, megavalley, glacial deposit, Denmark, Ulfborg; 05681.

**Weichselian deposit**

Quaternary geology, geological map, North Sea, Swallow Hole; 01204.

**Weichselian ice advance**

Fehmarn Advance, till facies, depositional environment, abrasion, draping, Germany, Schleswig-Holstein, Stohler Cliff; 04639.

**Weichselian interstadial deposit**

Eemian, Quaternary, deglaciation, shoreline displacement, Finland, Lapland, Rovaniemi; 02409.

**Weichselian Pleniglacial**

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**Wisconsinian maximum**

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**woodland flora**

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**woodland sequence**

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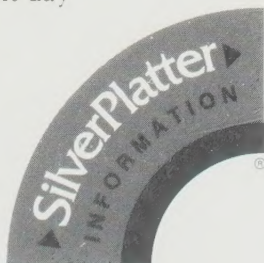
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